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# PROGRAM

FOR THE

## Forty-Third Annual Meeting

OF THE

# Medical Society,

OF THE

## State of North Carolina,

TO BE HELD IN

## WINSTON-SALEM,

MAY 12th, 13th and 14th, 1896.

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All regular, registered physicians in North Carolina, in good standing, are cordially invited to attend this meeting, and connect themselves with the State Society.

## KEEP THIS PROGRAM.

The program has been delayed to enable authors who were late in sending in titles of paper to have a place in the regular order of business. The papers announced in this program will have precedence in the order of their arrangement. The tardiness of authors in sending the titles of papers to the Secretary is to be regretted.

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The railroads have allowed the usual reduced rates to all attending the meeting. The following rates will be charged by the hotels :

The Phœnix.....$1.50.

Hotel Jones..... ..... ... 1.25.

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### ATTENTION !

All members are requested to sign the register ONCE, as the list of members attending the meeting is made up from this register.

## OFFICERS

PRESIDENT.

R. L. PAYNE, M.D., Lexington.

VICE-PRESIDENTS.

1st. S. D. BOOTH, M.D., Oxford.
2d. I. P. MUNROE, M.D., Davidson.
3d. J. A. BURROUGHS, M.D., Asheville.
4th. J. E. GRIMSLEY, M.D., Snow Hill.

SECRETARY.

R. D. JEWETT, M.D., Wilmington.

TREASURER.

M. P. PERRY, M.D., Macon.

ORATOR.

H. H. DODSON, M.D., Milton.

ESSAYIST.

W. P. IVEY, M.D., Lenoir.

LEADER OF DEBATE.

H. A. ROYSTER, M.D., Raleigh.

## COMMITTEES

BOARD OF CENSORS.

(EXPIRES 1898.)

W. O. McDOWELL, M.D. H. H. HARRIS, M.D.
THOS. E. ANDERSON, M. D.

OBITUARY.

W. J. JONES, M.D., R. D. JEWETT, M.D.
J. C. MONTGOMERY, M.D.

LEGISLATION.

A. W. KNOX, M.D., T. S. BURBANK, M.D.,
HUBERT HAYWOOD, M.D.,
K. P. BATTLE, M.D., T. D. HAIGH, M.D.

DUFFY PRIZE.

R. S. YOUNG, M.D., J. M. FLIPPEN, M.D.,
S. W. STEVENSON, M.D.

NORTH CAROLINA MEDICAL JOURNAL PRIZE.

G. G. THOMAS, M.D., J. W. McNEILL, M.D.,
W. B. CRAWFORD, M.D.

# PROGRAM.

## TUESDAY, MAY 12th—Morning

10.00 A. M. Calling Convention to order, by H. T. Bahnson, M. D., Chairman Local Committee of Arrangements.

Prayer, by Rt. Rev. Edward Rondthaler.

Address of Welcome. Clement Manly, Esq.

Response. Geo. W. Long, M. D.

Society called to order for transaction of business, by the President, R. L. Payne, M. D.

Appointment of Committees on Credentials and Finance.

Roll Call.

President's Message.

Business requiring early attention.

### Section on Medical Jurisprudence.

J. C. Walton, M. D., Chairman.

"Shall we longer cast our Pearls before Swine?" Thomas M. Jordan, M. D.

(Tittle to be announced.) W. O. Spencer, M.D.

### Section on Chemistry and Physiology.

W. H. H. Cobb, M. D.. Chairman.

### Section on Pathology and Miscroscopy.

D. M. Prince, M. D., Chairman.

Voluntary Papers pertaining to any of the preceding Sections.

Reports of Committees.

Unfinished Business.

New Business.

## TUESDAY—Afternoon.

Society called to order at 3.00 o'clock.
Reports of Committees.

### Section on Practice of Medicine.

Rachitis. I. W. FAISON, M. D., Chairman.
Discussion opened by Dr. W. H. H. COBB.
Intestinal Indigestion.—W. W. MCKENZIE, M.D.
Discussion opened by Dr. I. W. FAISON.
Influenza. G. T. SIKES, M.D.

### Section on Materia Medica aud Therapeutics.

The Value of Recent Therapeutic Literature. J. C. MONTGOMERY, M.D., Chairman.

Clinical Notes on Guaiacal. H. A. ROYSTER, M.D.
Serum Therapy, a Prohylactic and Curative Agent. W. O. SPENCER, M.D.
Voluntary Papers pertaining to any of the preceding Sections.
Reports of Committees.
Unfinished Business.
New Business.

## TUESDAY—Evening.

Society called to order at 8.30 o'clock.

### Annual Discussion.

Is there in North Carolina a Continued Fever, which is neither Malarial nor Typhoid? H. A. ROYSTER, M.D., Leader of Debate.

Discussion continued by Drs. C. J. O'HAGAN, J. B. POWERS, A. A. KENT, etc.

The Roëntgen Photography, Illustrated by Experiments and Stereoptican Views. J. C. WALTON, M. D.

General Discussion on the practical application of of skotography to the purposes of medical and surgical diagnosis.

Miscellaneous Business.

## WEDNESDAY—Morning.

Society called to order at 10.00 o'clock.

Reports of Committees.

Appointment of Committee on Nominations.

Election to fill vacancies (three) on the Board of Medical Examiners.

### Section on Gynecology.

J. G. BLOUNT, M. D., Chairman.

Gynecology—What its Practice should mean to us. H. S. LOTT, M. D.

Voluntary Papers on any Preceding Section.

12.00 o'clock. **Conjoint Session with North Carolina Board of Health.**

Report of President of Board of Health. GEO. GILLETT THOMAS, M. D.

Report of Secretary. R. H. LEWIS, M. D.

Voluntary Papers on Board of Health Matters.

Miscellaneous Business.

## WEDNESDAY—Afternoon.

Society called to order at 3.00 o'clock.

**Section on Obstetrics.**

The Management of Gestation. C. A. JULIAN, M.D. Chairman.
Discussion opened by Dr. S. J. MONTAGUE.
Election of Officers for ensuing term.
Report of Committee on Nomination.
Voluntary papers on any preceding Section.
Selection of place and time for next meeting.

## WEDNESDAY—Evening

Society called to order at 8.30 o'clock.

**Annual Essay.**

The Chronometry of Life. W. P. IVEY, M.D.

**Annual Oration.**

The Doctor as a Social Influence. H. H. DODSON, M. D.

## THURSDAY—Morning,

Society called to order at 10.00 o'clock.
Reports of Committees.

**Section on Surgery.**

(Not announced.) J. L. NICHOLSON, M. D., Chairman.

A Clinical View of Pyelitis, with report of a recent Case successfully Treated by Incision and Drainage. J. H. WAY, M.D.

Discussion opened by Dr. T. E. ANDERSON.

A Rare Source of Error in the Diagnosis of Inguinal Hernia. Dr. E. G. GOODMAN, M.D.

The Radical Cure of Inguinal Hernia. JOHN H. GIBBON, M.D.

Ischio-rectal Abscess — Empyema. W. H. H. COBB, M.D.

Discussion opened by Dr. J. H. Way.

The Operative Treatment of Cataract. J. G. BROADNAX, M.D.

Artificial Anus. W. G. STAFFORD, M.D.

Discussion opened by Dr. H. T, BAHNSON.

Voluntary papers on any subject.

Miscellaneous Business.

## THURSDAY—Afternoon.

Society called to order at 3:00 o'clock.
Reports of Committees.
Unfinished Business.
Installation of Officers,
Appointment of Chairmen of Sections and Committees.
Miscellaneous papers.
Verbal clinical reports.
Miscellaneous Business.
Final adjournment.

Dr. Chas. Summers, Wind
" J. W. Rodwell Cana
" J. B. Smith Pilot Hill

1849.

1896.

LeGwin Bros., Printers, Wilmington.

# TRANSACTIONS

—OF THE—

# MEDICAL SOCIETY

OF THE STATE OF

# NORTH CAROLINA.

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Forty-Third Annual Meeting

—HELD AT—

Winston-Salem, N. C.,

MAY 12, 13 AND 16, 1896.

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WILMINGTON, N. C.,
LEGWIN BROTHERS, PRINTERS AND BINDERS.
1895.

TIME, PLACE AND OFFICERS OF THE MEETINGS.

—OF THE—

# Medical Convention and Medical Society.

## OF THE STATE OF NORTH CAROLINA.

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MEDICAL CONVENTION, RALEIGH, APRIL, 1849.

| PRESIDENT. | VICE-PRESIDENTS. | SECRETARY. | TREASURER. |
|---|---|---|---|
| F. J. Hill | | W. H. McKee. | |

FIRST ANNUAL MEETING, RALEIGH, APRIL, 1850.

| | | | |
|---|---|---|---|
| J. E. Williamson. | | W. H. McKee. | W. G. Hill. |

SECOND ANNUAL MEETING, RALEIGH, MAY, 1851.

| | | | |
|---|---|---|---|
| Edmund Strudwick. | C. E. Johnston. | W. H. McKee. | W. G. Hill. |

THIRD ANNUAL MEETING, WILMINGTON, MAY, 1852.

| | | | |
|---|---|---|---|
| J. E. Williamson | Thos. N. Cameron,<br>Wm. G. Hill,<br>Johnston B. Jones,<br>N. J. Pittman. | E. B. Haywood, | J. J. W. Tucker |

FOURTH ANNUAL MEETING, FAYETTEVILLE, MAY, 1853.

| | | | |
|---|---|---|---|
| J. E. Williamson. | W. G. Hill,<br>Johnston B. Jones,<br>J. G. B. Myers,<br>N. J. Pittman. | W. W. Harris. | Daniel Dupree. |

FIFTH ANNUAL MEETING, RALEIGH, MAY, 1854.

| | | | |
|---|---|---|---|
| J. H. Dickson. | N. J. Pittman,<br>J. G. B. Myers,<br>J. Graham Tull,<br>A. D. McLean. | S. S. Satchwell. | Daniel Dupree. |

SIXTH ANNUAL MEETING, SALISBURY, MAY, 1855.

| | | | |
|---|---|---|---|
| J. H. Dickson. | J. Graham Tull,<br>Owen Hadley,<br>A. D. McLean,<br>Hugh Kelly. | S. S. Satchwell. | J. B. Dunn |

SEVENTH ANNUAL MEETING, RALEIGH, MAY, 1856.

| | | | |
|---|---|---|---|
| C. E. Johnston. | Marcellus Whitehead,<br>E. R. Gibson,<br>Johnston B. Jones,<br>O. F. Manson | S. S. Satchwell. | J. B. Dunn. |

EIGHTH ANNUAL MEETING, EDENTON, APRIL, 1857.

| | | | |
|---|---|---|---|
| C. E. Johnston. | Marcellus Whitehead.<br>O. F. Manson,<br>H. W. Faison,<br>E. T. Gibson. | W. G. Thomas | J. B. Dunn. |

NINTH ANNUAL MEETING, NEWBERN, MAY, 1858.

| | | | |
|---|---|---|---|
| W. H. McKee | Edward Warren,<br>C. W. Graham,<br>Caleb Winslow,<br>A. B. Pierce. | W. G. Thomas. | J. B. Dunn. |

TENTH ANNUAL MEETING, STATESVILLE, MAY, 1859.

| | | | |
|---|---|---|---|
| W. H. McKee. | Jas. G. Ramsay,<br>Peter E. Hines,<br>J. R. Mercer,<br>W. T. Howard. | W. G. Thomas | C. W. Graham. |

ELEVENTH ANNUAL MEETING, WASHINGTON, APRIL, 1860.

| | | | |
|---|---|---|---|
| N. J. Pittman. | P. T. Henry.<br>R. H. Winborne,<br>M. Whitehead,<br>T. S. Leach. | W. G. Thomas. | C. W. Graham. |

TWELFTH ANNUAL MEETING, MORGANTON, MAY, 1861.

| | | | |
|---|---|---|---|
| N. J. Pittman. | J. J. Summerell,<br>C. T. Murphy,<br>G. W. Hodges,<br>W. A. B. Norcum. | W. G. Thomas. | C. W. Graham. |

THIRTEENTH ANNUAL MEETING, RALEIGH, JUNE, 1866.

| | | | |
|---|---|---|---|
| J. J. Summerell. | | W. G, Thomas. | C. W. Graham. |

FOURTEENTH ANNUAL MEETING, TARBOROUGH, MAY, 1867.

| | | | |
|---|---|---|---|
| Will Geo. Thomas. | E. Burke Haywood,<br>R. H. Winborne,<br>W. L. Barrow,<br>J. W. Jones. | S. S. Satchwell. | C. W. Graham. |

FIFTEENTH ANNUAL MEETING, WARRENTON, MAY, 1868.

| | | | |
|---|---|---|---|
| S. S. Satchwell. | Hugh Kelly,<br>Geo. A. Foote,<br>Chas. J. O'Hagan,<br>J. H. Baker | Thos. F. Wood. | J. W. Jones. |

SIXTEENTH ANNUAL MEETING, SALISBURY, MAY, 1869.

| | | | |
|---|---|---|---|
| E. Burke Haywood. | Thos. E. Wilson,<br>A. B. Pierce,<br>C. T. Murphy,<br>M. A. Locke. | Thos. F. Wood. | J. W. Jones. |

SEVENTEETH ANNUAL MEETING, WILMINGTON, MAY, 1870.

| | | | |
|---|---|---|---|
| Chas. J. O'Hagan. | E. A. Anderson,<br>F. N. Luckey,<br>W. R. Sharpe,<br>G. L. Kirby. | Thos. F. Wood. | J. W. Jones. |

EIGHTEETH ANNUAL MEETING, RALEIGH, MAY, 1871.

| | | | |
|---|---|---|---|
| Hugh Kelly. | D. N. Patterson,<br>R. C. Pearson,<br>J. B. Seavy,<br>G. L. Kirby. | Thos. F. Wood. | J. W. Jones. |

NINETEENTH ANNUAL MEETING, NEWBERN, MAY, 1872.

| | | | |
|---|---|---|---|
| W. G. Hill. | H. W. Faison,<br>R. I. Hicks,<br>G. H. Macon,<br>W. A. B. Norcum. | Jas. McKee. | J. W. Jones. |

TWENTIETH ANNUAL MEETING, STATESVILLD, MAY. 1873.

| | | | |
|---|---|---|---|
| Marcellus Whitehead. | W. T. Ennett,<br>William Little,<br>Chas. Duffy,<br>T. P. German. | Jas. McKee. | H. T. Bahnson. |

TWENTY-FIRST ANNUAL MEETING, CHARLOTTE, MAY, 1874.

| | | | |
|---|---|---|---|
| W. A. B. Norcum. | J. B. Jones,<br>R. F. Lewis,<br>C. G. Cox,<br>J. L. Knight. | Jas. McKee. | H. T. Bahnson. |

TWENTY-SECOND ANNUAL MEETING. FAYETTEVILLE, MAY, 1876.

| | | | |
|---|---|---|---|
| J. W. Jones. | Walker Debnam,<br>J. A. Gibson,<br>Wm. Little,<br>D. N. Patterson. | Jas. McKee. | H. T. Bahnson. |

TWENTY-THIRD ANNUAL MEETING, FAYETTENILLE, MAY, 1876.

| | | | |
|---|---|---|---|
| Peter E. Hines. | Jos. H. Baker,<br>G. G. Smith,<br>T. D. Haigh,<br>J. K. Hall. | Jas. McKee. | H. T. Bahnson. |

TWENTY-FOURTH ANNUAL MEETING, SALEM, MAY, 1877.

| | | | |
|---|---|---|---|
| Geo. A. Foote. | J. K. Hall,<br>B. W. Robinson,<br>A. A. Holmes,<br>A. A. Hill. | L. J. Picot. | A. G. Carr. |

TWENTY-FIFTH ANNUAL MEETING, GOLDSBORO, MAY, 1878.

| | | | |
|---|---|---|---|
| R. L. Payne. | E. M. Rountree,<br>Richardson Anderson,<br>S. B. Flowers,<br>L. A. Stith. | L. J. Picot. | A. G. Carr. |

TWENTY-SIXTH ANNUAL MEETING, WILMINGTON, MAY, 1879.

| | | | |
|---|---|---|---|
| J. F. Shaffner. | J. A. Gibson,<br>Willis Alston,<br>Jas. McKee.<br>A. A. Hill. | L. J. Picot. | A. G. Carr. |

TWENTY-SEVENTH ANNUAL MEETING, WILMINGTON, MAY, 1880.

| | | | |
|---|---|---|---|
| J. F. Shaffner. | J. K. Hall,<br>W. C. McDuffie,<br>W. R. Wilson,<br>R. F. Lewis. | L. J. Picot. | A. G. Carr. |

TWENTY-EIGHTH ANNUAL MEETING, ASHEVILLE, MAY, 1881.

| | | | |
|---|---|---|---|
| R. B. Haywood. | J. A. McRee,<br>W. H. Lilly,<br>R. H. Speight,<br>W. J. H. Bellamy. | L. J. Picot. | A. G. Carr. |

TWENTY-NINTH ANNUAL MEETING, CONCORD, MAY, 1882.

| | | | |
|---|---|---|---|
| Thos. F. Wood. | T. J. Moore,<br>D. J. Cain,<br>S. E. Evans.<br>John McDonald. | L. J. Picot. | A. G. Carr. |

THIRTIETH ANNUAL MEETING, TARBOROUGH, MAY, 1883.

| | | | |
|---|---|---|---|
| J. K. Hall. | A. W. Knox,<br>J. M. Hadley,<br>E. S. Foster,<br>John Whitehead. | L. J. Picot. | A. G. Carr. |

THIRTY-FIRST ANNUAL MEETING, RALEIGH, MAY, 1884.

| | | | |
|---|---|---|---|
| A. B. Pierce, | F. W. Potter,<br>G. W. Graham,<br>R. Dillard,<br>G. W. Long. | L. J. Picot. | A. G. Carr. |

THIRTY-SECOND ANNUAL MEETING, DURHAM, MAY, 1885.

| | | | |
|---|---|---|---|
| W. C. McDuffie | Jas. McKee,<br>T. E. Anderson,<br>W. H. Whitehead.<br>A. G. Carr. | W. C. Murphy. | R. L. Payne, Jr. |

THIRTY-THIRD ANNUAL MEETING, NEWBERN, MAY, 1886.

| | | | |
|---|---|---|---|
| Jos. Graham. | H. T. Bahnson,<br>L. J. Picot,<br>J. L. McMillan,<br>W. W. Faison. | W. C. Murphy. | R. L. Payne, Jr. |

THIRTY-FOURTH ANNUAL MEETING, CHARLOTTE, APRIL, 1887.

| | | | |
|---|---|---|---|
| H. T. Bahnson. | G. G. Smith,<br>J. L. Nicholson,<br>C. M. Poole,<br>H. B. Furguson. | W. C. Murphy. | R. L. Payne, Jr. |

THIRTY-FIFTH ANNUAL MEETING, FAYETTEVILLE, MAY, 1888.

| | | | |
|---|---|---|---|
| T. D. Haigh. | W. T. Ennett,<br>J. A. Dunn,<br>T. E. Anderson. | J. M. Baker. | C. M. Poole. |

THIRTY-SIXTH ANNUAL MEETING, ELIZABETH CITY, APRIL, 1889.

| | | | |
|---|---|---|---|
| W. T. Ennett. | W. J. Jones,<br>S. W. Stevenson,<br>Geo. W. Long. | J. M. Baker. | C. M. Poole. |

THIRTY-SEVENTH ANNUAL MEETING, OXFORD, MAY, 1890.

| | | | |
|---|---|---|---|
| Geo. G. Thomas. | R. L. Payne, Jr.,<br>Richard Dillard,<br>S. D. Booth. | J. M. Hays. | C. M. Poole. |

THIRTY-EIGHTH ANNUAL MEETING, ASHEVILLE, MAY, 1891.

| | | | |
|---|---|---|---|
| R. H. Lewis. | S. W. Battle,<br>J. L. Nicholson,<br>W. H. Lilly. | J. M. Hays. | C. M. Poole. |

THIRTY-NINTH ANNUAL MEETING, WILMINGTON, MAY, 1892.

| | | | |
|---|---|---|---|
| W. T. Cheatham. | T. S. Burbank,<br>J. W. Long,<br>W H. H. Cobb,<br>W. D. Hilliard. | J. M. Hays. | C. M. Poole. |

FORTIETH ANNUAL MEETING, RALEIGH, MAY, 1893.

| | | | |
|---|---|---|---|
| J. W. McNeill. | W. C. Galloway,<br>H. H Harris,<br>J. M. Hadley,<br>Thos. Hill. | R. D. Jewett. | M. P. Perry. |

TIME, PLACE AND OFFICERS.—CONTINUED.

FORTY-FIRST ANNUAL MEETING, GREENSBORO, MAY, 1894.

| | | | |
|---|---|---|---|
| W. H. H. Cobb. | J. A. Hodges,<br>R. W. Tate,<br>Willis Alston,<br>M. H. Fletcher. | R. D. Jewett. | M. P. Perry. |

FORTY-SECOND ANNUAL MEETING, GOLDSBORO, MAY, 1895.

| | | | |
|---|---|---|---|
| J. H. Tucker. | J. H. Way,<br>W. H. Harrell,<br>O. McMullan,<br>C. A. Meisenheimer. | R. D. Jewett. | M. P. Perry. |

FORTY-THIRD ANNUAL MEETING, WINSTON-SALEM, MAY, 1896.

| | | | |
|---|---|---|---|
| R. L. Payne. | S. D. Booth,<br>J. P. Munroe,<br>J. A. Burroughs,<br>J. E. Grimsley. | R. D. Jewett. | M. P. Perry. |

# OFFICERS AND COMMITTEES.

## SESSION 1896.

---

PRESIDENT.

R. L. Payne, M. D., Lexington.

VICE-PRESIDENTS.

1st. S. D. Booth, M.D., Oxford.
2d. J. P. Munroe, M.D., Davidson.
3rd. J. A. Burroughs, M.D., Asheville.
4th. J. E. Grimsley, M.D., Snow Hill.

CORRESPONDING AND RECORDING SECRETARY.

R. D. Jewett, M.D., Wilmington.

TREASURER

M. P. Perry, M.D., Macon.

ORATOR.

H. H. Dodson, M.D., Milton.

ESSAYIST.

W. P. Ivey, M.D., Lenoir.

BOARD OF CENSORS.

(Expires 1898).

W. O. McDowell, M.D,, Scotland Neck.
H. H. Harris, M.D., Wake Forest.
Thos. E. Anderson, M.D., Statesville.

PUBLICATION.

R. D. Jewett, M.D., Wilmington.
W. C. Galloway, M.D., Wilmington.
D. W. Bulluck, M.D., Wilmington.
A. H. Harris, M.D., Wilmington.
G. G. Thomas, M.D., Wilmington.

NECROLOGY.

W. J. Jones, M.D., Goldsboro.
R. D. Jewett, M.D., Wilmington.
J. C. Montgomery, M.D., Charlotte.

# MINUTES

—OF THE—

# FORTY-THIRD ANNUAL MEETING

—OF THE—

# Medical Society of the State of North Caolina.

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FIRST DAY—MORNING SESSION.

WINSTON-SALEM, N. C., May 12, 1896.

The Forty-Third Annual Meeting of the North Carolina Medical Society of the State of North Carolina was convened in Winston-Salem on the 12th day of May, 1896, President R. L. Payne, M.D., of Lexington, in the chair.

The Society was called to order at 10:30 o'clock by R. F. Gray, M.D., Chairman of the Local Committee of Arrangements.

Rt. Rev. Edward Rondthaler, delivered a most fervent prayer.

Clement Manly, Esq., delivered the following

ADDRESS OF WELCOME.

*Ladies and Gentlemen:*

Having been selected by the local Board of Physicians of this dual city—in the name of Winston and Salem I give most hearty greeting to the Medical Society of the State of North Carolina.

Gentlemen you are one and all most cordially welcome among us.

It is quite fitting that a layman should make this opening declaration of hospitality—for that your brethren extend you their greeting goes without the saying, and it is thus emphasized as we wish it to be. Your welcome is from all, and our people of every class feel gratified and honored in your presence.

You are active, busy men. In the battle of life where human kind continues its ever-eventful struggle, you are in the midst where contensions are most serious and severe, looking on humanity in all its miseries and weakness—fighting the common and dread enemy of all. Standing so often on the Narrow Bridge—alone with one suffering fellow creature and no mortal eye but the physician's to watch the jeopardy of that vital crossing. These meetings with your brethren for the inter-change of views and discussion of new

subjects are also, for many, days of rest and recreation. It is in this spirit we hope your stay among us may be of such profit and pleasure as we know you have found in our sister cities.

We have not the attractions to the eye of the stranger, which either extreme of our extensive State can offer. We have not the bright sparkling waters of inland seas or the majestic grandeur of ocean; nor nature's cloud-capped towers which mark the azure range that runs its mighty length through lands of varied beauty. We have not these. But we have a dual city, the old with its ancient seat of female learning, together with the new, blending into harmony and success. We offer you our best. We would not seek a rivalry with others—save in the sincerity of our welcome.

Gentlemen: We know our own—the physician of our home is a man among men. He is our friend and we honor him—and we recognize in this body the most distinguished and learned gentlemen of North Carolina. Men, who in their covetous desire to know the hidden secrets of disease, and to explore the vast regions of all knowledge have waxed strong and mighty in the present progress of the arts and scientific discovery and invention. All that nature gives belongs to them. The chained elements are used to aid the weakness of men. What mighty and comprehensive instruments!

Yes, gentlemen; modern development may give you even greater renown and fame than ever before belonged to your profession; it may bring greater skill than the Dervish of the Arabian tale who knew "the hidden treasures of the universe," and the balm of every "medicinal gum" but these are not the charm which makes your names household words. Mankind will honor you most for the noble martyrs to duty, who in the world's history have recorded deeds of the hero. The story that marks his entrance into the habitation of penury and want when contagious pestilence sits commanding, bringing with him comfort for the weary body, and ease to the parched and fevered lips—is the ever shining light of your triumphs. Indeed, I have watched the wondrous strides of this success, you so ably represent, with admiration and curiosity, and I have thought that the next decade would bring change. It would not surprise me to find the entire composition of the present drug store gone. The rows on rows of vials and vessels with abreviations of dead tongues will be of the past. The future drug store will have two articles: Petroleum and a storage of electricity.

Then comes the great diagnostician—the x-rays. I stop here, I do not understand this question. I suppose they will carry this instrument in a box like a kodak, open it on you and look through you. I await the test with awe and fear. But I now warn you not to reveal secrets you may find—they are not mine—the deviltry there belongs to a client.

In conclusion let me say, in the name of our Mayor and counsel and all our fellow citizens, I give you hearty welcome; I present you the keys of the

cities, whether of gold or silver I do not know but they are *free.* I see you understand. And, now my earnest wish is that this subject may not be injected into your grave discussions. I wish you welcome.

Dr. George W. Long, of Graham, upon behalf of the Society responed as follows:

RESPONSE.

Nineteen years ago when I was almost an unfledged and an unwhiskered youth I came to your sister city to join this society. From that day to this I have followed her in her migrations from one end of the State to the other.

It is an esteemed privilege as well as pleasure to say to you that wheresoever we have gone, whether in the direction of the mountain gorge of the west or the cypress swamp of the east, or here within the gates of your own beautiful piedmont city, looming up not only to the admiration of the members of this society but to every lover of progress in North Carolina, we have been received with marked respect and distinguished favor.

We thank you, son of a noble sire, whose name is a priceless heirloom to all true North Carolinians, and the generous people you have the honor to represent, for this hospitable greeting, and assure you that whatever may be your lot in the future you will always have our earnest prayers and zealous wishes for your welfare present and eternal.

Permit me to say that, far above your extraordinary achievements in manufactures and commerce, stand your churches, schools and colleges. After all, these are the most active agencies in all the fundamental progressive work of modern society. Libraries, laboratories and collections, charities and hospitals, all help society in its forward movement. They are the outgrowth of intelligence. Winston-Salem amply illustrates this truth. A people to be free must have intelligence: "The truth shall make you free," says the inspired writer. It was doubtless this sentiment which moved the lyric Grecian Alcæus, long years ago when he fashioned in poetic fancy his ideal of a perfect State.

What constitutes a State?
Not high-raised battlement or labored mound,
Thick wall or moated gate;
Not cities proud with spires and turrets crowned;
Not bays and broad-armed ports,
Where, laughing at the storm, rich navies ride;
Not starred and spangled courts,
Where low-browed baseness wafts perfume to pride,
No:—men, high-minded men,
With powers as far above dull brutes endued
In forest, brake, or den,
As beasts excel cold rocks and brambles rude,
Men who their duties know,
But know their rights, and, knowing, dare maintain,
Prevent the long-aimed blow,
And crush the tyrant while they rend the chain;
These constitute a State;
And sovereign law, that States collected will,
O'er thrones and globes elate
Sit empress crowning good, repressing ill."

The Society was now called to order by the President for the transaction of business.

Drs. P. L. Murphy, Prancis Duffy, and Robert L. Gray, were appointed the Committee of Finance.

The following Committee on Credentials was appointed: Drs. S. J. Montague, Albert Anderson, J. Howell Way.

The plan followed at the meeting at Goldsboro of allowing twenty minutes for the reading of a paper and five minutes to any member in the discussion, was adopted for this session.

The roll was called by the Secretary. (Those members present will be indicated in the list of members.)

The President's address was now read before the Society and a number of the citizens of Winston-Salem.

Drs. W. H. H. Cobb, R. S. Young and G. G. Thomas were appointed, on motion, a committee of three to consider the recommendations urged in the President's address.

Dr. Thos. M. Jordan presented a paper entitled "Shall we longer cast our pearls before the swine?" On motion the paper was read by title and referred to the Committee on Publication, Dr. Jordon not being present.

Dr. D. M. Prince, chairman of Section on Microscopy and Pathology submited a paper which was read by title and referred to the Committee on Publication.

On motion of Dr. Royster the privileges of the floor were extended to Dr. Gwathmey, of Norfolk, Va.

Dr. Gwathmey acknowledged the courtesy in a few appropriate words.

On motion the Society adjourned.

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### First Day—Afternoon Session.

Society called to order by the President at 3 o'clock.

The Committee on Credentials made a partial report. (See last day's proceedings for full report).

Local Committee of Arrangement read an invitation from the Twin-City club, offering the Society its privileges, and announced also that to-night there would be a concert given to the Society by the ladies and gentlemen of the town. On motion the thanks of the Society were returned and the invitation accepted.

Dr. W. W. McKenzie read a paper on "Intestinal Indigestion." Discussed by Dr. I. W. Faison.

Dr. I. W. Faison read a paper on "Rachitis." Discussed by Dr. C. J. O'Hagan.

A paper on "Influenza" was read by Dr. G. T. Sikes.

Dr. J. A. Burroughs read a paper on the "Management and Treatment of Tuberculosis in the Asheville Climate with Report of cases." Discussed by Dr. Francis Duffy.

Dr. J. C. Montgomery read a paper entitled "The Value of Recent Therapeutic Literature."

Dr. H. A. Royster read a paper on "Clinical Notes on Guaiacol." Discussed by Dr. J. H. Gibbon.

A resolution offered last year affecting a change in the constitution was brought up for discussion. It was moved that it be laid on the table. Motion prevailed.

The Secretary read a telegram from Dr. J. H. Tucker, expressing his regret that he could not attend.

A communication from Drs. Thos. Hill and R. A. Smith, of Goldsboro, was read, which asked an expression of the Society on the question "Is it according to the Code of Ethics and the rules of the Medical Society for members of the Society to consult regularly with a member of the profession who has been expelled from the Society for unprofessional conduct?"

Moved by Dr. Hays that it be declared the sense of this Society that a physician in good standing in this Society may not consult regularly, or irregularly either, with a former member of the Society who has been expelled for unprofessional conduct, or with an unregistered practitioner.

A substitute was offered and adopted that a committee of three be appointed to consider and frame the language of a resolution to be presented to the Society. Drs. Hays, Powers and Graham were appointed.

No further business being before the Society, on motion it adjourned to meet at 8:30 o'clock Tuesday night.

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### First Day—Evening Session.

Society called to order by the President at 8:30 o'clock.

Letter from Dr. Kinyoun in regard to vivi-section read by Dr. Graham.

Moved that a committee of three be appointed to draw up resolutions in regard to this matter, to be presented to the Society for its consideration. Motion carried and Drs. Knox, Duffy and O'Hagan were appointed.

Dr. H. A. Royster opened the Annual Discussion with a paper entitled "Is there in North Carolina a Continued Fever, which is neither Malarial nor Typhoid?"

The discussion was participated in by Drs. Powers, Kent, O'Hagan, McMullan, Sikes and Gwathmey.

An interesting paper on the Röentgen Photography which was illustrated with stereopticon views was by Dr. J. C. Wolton.

On motion the Society adjourned until to-morrow morning.

SECOND DAY—MORNING SESSION.

Society called to order by the President at 10 o'clock.

Your committee appointed to consider the suggestions made in the mesage of the President beg leave to make the following report:

In the matter of the Board of Examiners, your Committee heartily endorses the recommendations of the President, that the Society shall return as quickly as possible to the customs in force previous to 1890, of electing these Boards to serve six years without interruption. The members of the Society must realize that frequent elections to such an important office as Examiner, a place of so much responsibility, that we submit that it is the highest office in the gift of the Society, tend injure the steady work for which the Society exists and for which it annually convenes. These elections, stirring up the justifiable ambition of our members set to work all of the machinery of electioneering for place and the natural result is and will be the birth of factions and personal animosity, to the neglect and decay of the routine and important matters that are so necessary to its successful life. We therefore recommend that the members of the Board to be elected to-day shall enter upon their duties with the understanding that their term of office expires in 1900, after four years of service, the term of those to be elected in 1898 will likewise expire in 1900. At which date the term of office of the whole will end, the election in 1900 providing an entirely new Board to serve six years. We respectfully suggest that the Committee on Legislation shall seriously consider the question of asking the Legislature to compel midwives to be examined and licensed, if found competent.

The prosecution of illegal practitioners belongs to the Criminal Courts of the State, and we do not think it wise or expedient for the members of the Society to be forced to enter the field of prosecuting witnesses or informers. The Solicitors have ample means for knowing who is registered with the clerk of each county as a physician and very little inquiry will inform them of any others violating the laws regulating medical practice.

This Committee does not feel that it will exceed the limit of the duties imposed upon it, when it calls the attention of the Society to the very practical character of the message of the President, and congratulates him in your name for the prominent mark it has made upon his administration.

As the adoption of the report would carry with it a change in the constitution it was, on motion, received and held for further action.

The Committee on Arrangements announced that to-night there would be a Musical Recital at the Salem Female Academy, complimentary to the Society, the Annual Essay and Oration to be delivered in the Academy chapel. After adjournment a Trolly Party would be given to the Physicians through all the streets of the cities and at 5 o'clock carriages will be in readiness to take the Society about the city. The thanks of the Society were returned to the Committee.

Dr. Jones made the report of the Obituary Committee which was accepted.

The following resolution adopted by the class of which Dr. Stancell was a member, was introduced by Dr. J. C. Rodman and ordered spread upon the minutes of the Society:

The licentiates of the class of 1892, having met to take some steps to show their high personal regard and respect for the ability of the late Dr. R. H. Stancell, Jr., do hereby pass the following resolutions:

*Resolved 1.* That in his death the class has sustained a most severe loss. For we do believe, that had The Great Father in His wisdom deemed it best to retain him among his children on earth, the time would have come, when he would have conferred honor and dignity upon it by his success in his chosen profession.

*Resolved 2.* That the Society of the State of North Carolina, has been deprived of a most zealous worker and valued member. One who would have always had its best interest at heart.

*Resolved 3.* That humanity, whose benefit has been the goal of our endeavors since medicine became a science, has also been a loser.

We ask that a copy of these resolutions be sent to the family and to the NORTH CAROLINA MEDICAL JOURNAL for publication.

Committee for Class. { JOHN C. RODMAN, Washington, N. C.;
J. T. BYNUM, Winston, N. C.;
JNO. G. BLOUNT, Washington, N. C.

The following Committee on Nominations was appointed· Drs. Charles J. O'Hagan, A. W. Knox, M. R. Adams, D. T. Tayloe, and W. H. Wakefield.

Election to fill vacancies on the Board of Medical Examiners were declared in order, and Drs. Joel Harris, M. H. Fletcher, W. S. Lumsden, and T. S. McMullan were appointed tellers.

Dr. R. H. Lewis moved to amend the Constitution by striking out all of article VI after the caption and inserting:

Section 1. The members of the Board of Medical Examiners shall be elected by ballot for a term of six years. A majority of the votes cast being necessary to a choice. The election shall be held at 10 o'clock a. m., on the second day of the annual meeting, and the balloting shall continue until the entire number of seven are elected.

NOTE--In order to accomplish the change from the present method of electing a portion of the Board every two years to that of electing the whole number at one time without curtailing the term of office of those already elected it is decreed that the two members to be elected in 1898 be elected for four (4) years and the two members to be elected in 1900, for two (2) years after which this note having served its purpose shall be considered as repealed without further action on the part of the Society.

Sec. 2. A vacancy occuring from any cause other than expiration of term of office, shall be filled by the Board or a quorum thereof.

The Secretary read the Constitution of the State in regard to the election of vacancies on the Board of Examiners.

On motion there was a temporary suspension in the election of the members of the Board of Examiners in order to give Dr. Knox an opportunity to make remarks. Motion carried.

Dr. Knox said: First, I hope that every one of you will believe that in my remarks I am not actuated by any personal feeling towards any individual gentlemen. I have certain convictions which I want to lay before you in a

calm, quiet, dispassionate way and ask your serious consideration of them. If, in this discussion, it shall be proved that I am wrong there will be no man more prompt to acknowledge the error. I am not going into any extended remarks, but will state the principle upon which the action is based, and on which I ask your careful, deliberate consideration. I hesitate to say this, but there is and has been a growing tendency in this Society towards politics. It has come to pass—and I speak now with no personal feelings towards any individual—that gentlemen in this Society have sought the position of member of the Board of Medical Examiners, the most honorable position in the Society, by electioneering letters. Again I disclaim any personal allusions, but to-day that is done. If we go on in that way, we will soon get to the point where we will say to each other, "If you will vote for me as a member of the Board, I will vote for you as President, or if you will vote for my friend for the Board I will vote for your friend for President." To my mind the Board of Examiners pre-eminently of all offices in the Society, ought to seek the man, and the man should not seek the office. I move, therefore, that it is the sentiment of this Society, that any candidate who has or shall resort to electioneering or allow it to be done with his knowledge, shall be regarded as unworthy of the office.

Dr. R. H. Lewis after a few remarks offered the following substitute which Dr. Knox cheerfully accepted, as proving his entire absence of personal feeling.

*Resolved*, That is the sense of the Society that any electioneering for office on the part of any of its members in person or indirectly through friends is contrary to the dignity of the Body, inimical to its interests, and should be earnestly discouraged by every loyal son.

The resolution was unanimously adapted.

The following gentlemen were nominated to fill the vacancies on the Board of Examiners: Dr. J. H. Way, of Waynesville; Dr. I. W. Faison, of Charlotte; Dr. Thos. E. Anderson, of Statesville; Dr. R. H. Whitehead, of Chapel Hill; Dr. Albert Anderson, Dr. David T. Tayloe, of Washington; Dr. J. B. Powers, of Wake Forest. The ballot was cast, and Dr. Tayloe and Dr. Whitehead were elected, Dr. Tayloe receiving 101 votes and Dr. Whitehead 69. Number of votes necessary to a choice was 68. Way 65 on 1st Ballot

A second ballot was cast for the election of the third member, but there was no election.

Dr. Albert Anderson withdrew his name.

A motion was adpted that in case of no election on the third ballot all names except the two highest should be dropped.

On the third ballot there was no election, and all names were dropped except those of Dr. Way and Dr. T. E. Anderson.

As the result of the fourth ballot Dr. Anderson was elected.

The Society adjourned to meet at 3 o'clock.

SECOND DAY—AFTERNOON SESSION.

In the absence of the President, the Society was called to order by the First Vice President, Dr. S. D. Booth.

A paper on Endo-metritis was read by Dr. Blount.

Discussed by Dr. T. S. McMullan.

Dr. H. S. Lott read a paper on "What the Practice of Gynecology should mean to us."

Discussed by Drs. Bahnson, Poole, Flippin and Gwathmey.

The Committee on Finance made the following report, which was accepted:

Your Committee on Finance having examined the books and accounts of the Treasurer, beg leave to make the following report:

| | |
|---|---|
| Balance on hand, May 15, 1895. . . . . | $ 615.01 |
| Amount collected . . . . . | 661.00 |
| | 1276.01 |
| Expended as per vouchers . . . . . | $ 910.42 |
| Balance on hand, May 13, 1896. . . . . | 365.59 |

We recommend the usual assessment of $2.00 per capita for the ensuing year and that the salaries of the Secretary and Treasurer be the same as last year.

Respectfully submitted,
P. L. MURPHY,
F. DUFFY,
R. F. GRAY.

The proposed amendment to the Constitution offered by Dr. J. C. Walton at the last meeting was called up, and, on motion, laid upon the table.

Dr. C. A. Julian read a paper on "The Management of Gestation."

Discussed by Dr. H. S. Lott.

The hour for election of officers having arrived, nominations for President were called for.

Dr. P. L Murphy, of Morganton, was nominated.

As there were no other nominations, on motion, the Secretary cast the vote of the Society for Dr. Murphy, whereupon he was declared duly elected President for the ensuing year.

The following Vice Presidents were nominated and unanimously elected: 1st, Dr. J. C. Walton; 2nd, Dr. A. A. Kent; 3rd, Dr. M. R. Adams; 4th, Dr. B. L. Long.

Nominations for Secretary being in order, Dr. R. D. Jewett was placed in nomination. There being no further nominations the Treasurer was requested to cast the vote of the Society for him, and he was declared elected.

Dr. M. P. Perry was nominated as Treasurer, and there being no further nominations, the Secretary was requested to cast the vote of the Society for him and he was declared elected.

### Second Day—Evening Session.

The evening session was held in the chapel of the Salem Female Academy, being called to order at the close of a recital by the pupils of the school.

The first paper was the Annual Essay entitled "The Chronometry of Life." By W. P. Ivey, M.D., Lenoir.

The Annual Oration entitled "The Doctor as a Social Influence," was then delivered by Dr. H. H. Dodson, Milton.

On motion the Society adjoined.

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### Third Day—Morning Session.

Society called to order at 10 o'clock.

The Section on Surgery was called. The chairman of this Section, Dr. J. L. Nicholson being absent it was moved that his paper be read by title, and referred to the committee on publication. Motion carried.

The committee on credentials made a report, which was accepted.

The Secretary read letters of regret from Dr. J. G. Ramsay, Dr. R. H. Winborne and a telegram from Dr. J. H. Tucker.

Dr. Hays for the committee to offer resolutions in regard to consultation with suspended members, asked for further time.

The Committee on Vivisection presented the following report, which was adopted.

Whereas, we are informed that the National Legislature will be importuned to enact laws on the subject of Vivisection, which are calculated to restrict experimental investigation and thereby hamper science.

*Resolved*, That it is the sense of the North Carolina Medical Society, that scientists are the truest humanitarians, and are safer to trust in their methods and conclusions than persons of exclusive ideas and mawkish sentimentality.

*Resolved*, That we respectfully request our Senators and members of Congress to use their best efforts to prevent such mischievous legislation, and that copies of these resolutions be sent to our Senators and Representatives in Congress.

The Committee on Nominations recommend the following committees.

*Orator.*—Chas. J. O'H. Laughinghouse.

*Essayist.*—J. B. Powers.

*Leader of Debate.*—J. M. Flippen.

*Board of Censors.*—W. O. McDowell, H. H. Harris and J. H. Tucker.

*Publication.*—E. C. Register, R. H. Gibbon, R. J. Brevard and R. D. Jewett.

*Legislation.*—R. H. Lewis, Abner Alexander, W. T. Cheatham, and L. J. Picot.

*Duffy Prize.*—John Whitehead, W. P. Beall, and Oscar McMullan.

*The North Carolina Medical Journal Prize.*—G. G. Thomas, J. W. McNeill and W. H. H. Cobb.

*Obituary.*—R. S. Young, R. D. Jewett, and Kemp P. Battle.

*American Public Health Association.*—W. J. Lumsden, Chas. Duffie, and H. T. Bahnson.

*North Carolina Pharmaceutical Association.*—S. D. Booth, J. G. Brodnax, and Thos. Hill.

*American Pharmaceutical Association.*—L. H. Hill, Germanton; C. E. Hilliard, and W. H. Harrell.

*Delegates to American Medical Association.*—B. F. Halsey, J. Howell Way, A. A. Kent, W. R. Mayo, J. J. L. McCullers, J. C. Montgomery, C. C. Jackson, W. W. McKenzie, E. C. Laird, and W. A. Graham.

*Delegates to South Carolina Medical Association.*—J. R. Irwin, Frank H. Russell, W. G. Stafford, Fred. Potts, W. J. Love, G. W. Purefoy and S. W. Stevenson.

*Delegates to Virginia Medical Association.*—Geo. A. Foote, S. J. Montague, R. S. McGeachy, J. B. H. Knight, D. N. Dalton, J. C. Rodman.

*Delegates to Southern Surgical and Gynæcological Association.*—M. H. Fletcher H. W. Lewis, R. L. Gibbon, T. S. McMullan.

Dr. J. Howell Way read a paper on "A Clinical View of Pyelitis," with report of a recent case successfully treated by incision and drainage.

Discussed by Drs. T. E. Anderson, Booth, Duffy, R. L. Gibbon, Hodges and Tiffany.

Dr. K. P. Battle read a paper on "A Case of Tracheotomy for Foreign Body."

Dr. E. G. Goodman read a paper on "A Rare Source of Error in the Diagnosis of Inguinal Hernia.

Moved that there be a suspension of business.. Motion carried.

Dr. A. W. Knox addressed the Society in favor of the reinstatement of Dr. M. E. Robinson, stating that the causes leading to Dr. Robinson's suspension no longer existed, that he regretted what he had done and desired to be reinstated.

The President ruled that Dr. Robinson is not a member of the Society, and can only become a member by coming before the committee on credentials and signing the constitution in due form, unless there be a motion to suspend the rules.

Moved that the rules be suspended and that he be reinstated. Motion lost.

Moved that Dr. Robinson's name be submitted to the Committee on Credentials, and that it be requested to report as early as possible at this meeting. Motion prevailed.

Dr. John H. Gibbon read a paper on "Radical Cure of Inguinal Hernia.

The President stated that if the Society intended to accept the hospitality

of the citizens and go on the excursion to Pilot mountain, it would be necessary to adjourn and continue the session at the mountain.

It was moved that the President be installed on Pilot mountain. Motion prevailed.

On motion the remaining papers on the programme were ordered read by title and referred to the Committee on Publication.

On motion the Society adjourned to meet at Pilot mountain.

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### Third Day—Afternoon Session.

Society called to order by the President.

The Committee on Credentials reported favorably the name of Dr. Robinson and he was reinstated.

The time of meeting of the Society, was reconsidered and after some discussion the first Tuesday in June, 1897, was adopted.

The following resolution was offered by Dr. Pool:

*Resolved*, That no member shall be admitted to this Society unless he is present at the meeting at which his name is presented. Resolution was lost.

The hour for the installation of officers having arrived, the retiring President thanked the Society for courtesies shown him, and handed the gavel to Dr. P. L. Murphy, his successor.

Dr. Murphy replied in a few appropriate words, and then made the following appointments as chairman of sections:

*Pathology and Microscopy.*—Dr. J. W. White.

*Practice of Medicine.*—Dr. R. L. Gibbon.

*Anatomy and Surgery.*—Dr. J. C. Rodman.

*Materia Medica and Therapeutics.*—Dr. E. G. Goodman.

*Medical Jurisprudence.*—Dr. G. T. Sikes.

*Obstetrics.*—Dr. S. L. Montgomery.

*Gynecology.*—Dr. J. S. Brown.

*Chemistry and Physiology.*—Dr. T. S. McMullan.

The following resolution was adopted by a rising vote:

*Resolved*, That the thanks of the Society are due and are hereby extended to the local committee of physicians, the young ladies of the Salem Female Academy, the Twin-City Club, the ladies of the Twin-City Hospital Association and the citizens generally for the numerous hospitalities and courtesies extended this body.

The following were favorably reported by the Committee on Credentials and became members:

Abner Alexander, George Doughton, C. C. Jackson, W. C. Brownson, J. M. Turner, F. L. Potts, Chas. W. Mosby, W. T. Holt, A. Y. Linville, Goode Cheatham, James M. Parrott, Jas. W. Kornegay, F. H. Holmes, E. Fulp, J.

E. LcLaughlin, John Bynum, Chas. B. McAnally, G. W. Pressly, W. K. Reid, W. H. Crowell, C. V. Reynolds, W. G. Sutton, F. E. Asbury, T. S. Faucette, E. E. Klutz, Anna M. Gove, Thos. B. Ashby, B. E. Reeves, J. R. Reitzel, Chas. L. Summers, J. B. Smith, J. W. Rodwell.

The following members were reinstated. H. S. Lott, John Sweaney, J. B. Carr, D. N. Dalton, M. E. Robinson.

R. D. Jewett, M.D., Secretary.

R. L. Payne, M.D., President.

## BOARD OF MEDICAL EXAMINERS OF THE STATE OF NORTH CAROLINA.

Spring Session, 1896, Winston-Salem.

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The Board of Medical Examiners met at Winston on Monday, May 11th, at 9 o'clock a. m. There were present Drs. W. H. Whitehead, President, L. J. Picot, Secretary, H. B. Weaver, J. M. Hays and Geo. W. Long. Drs. Thos. S. Burbank and Julian M. Baker were unavoidably detained at home, the latter by sickness. Dr. Burbank sent in his questions upon anatomy, which being approved were used for examination in that branch. Dr. Whitehead, by consent, conducted the examination in surgery for Dr. Baker. The examinations were written, and the same standard of 80 per cent. maintained. An oral examination was granted to Dr. C. J. Parlear, on account of the loss of an eye. There were seventy-five applicants and the following were granted license:

J. B. Matthews, Durham.
J. M. Sheppard, Campbell.
A. B. Byerly, Yadkin College.
J. J. Young, Smithfield.
George W. Williams, (col.) Raleigh.
Geo. W. Norman, Reidsville.
S. P. Burt, Centreville
J. C. Gilbert, Hope Mills.
W. J. McAnally, Madison.
Thos. T. Watkins, Walnut Cove.
G. S. Kirby, Lenoir.
James Young, Mooresville.
J. F. Swann, Cool Springs.
E. B. Glenn, Asheville.
John M. Osborne, Asheville.
E. M. Hutchins, Capps Mills.
C. S. McLaughlin, Newell.
D. A. Garrison, Bessemer City.
H. C. Upchurch, Raleigh.
W. D. Crocker, Lucama.
L. L. Ardrey, Charlotte.
W. T. Griggs, Harbinger.
M. E. Bennett, Palm.
J. H. Haizlip, Salem Chapel.
Chas. S. Tate, Ramseur.
S. S. Royster, Mooresboro.
A. P. Davis, Daisey.
J. J. Leak, Francisco.
S. E. Koonce, Trenton.
Isaah Fearing, Elizabeth City.
Wm. R. Mapp, (col.) Raleigh.
W. P. Horton, North Wilkesboro.
T. C. Blackburn, Boone.
W. E. Hemphill, Archers.
W. C. Horton, Wakefield.
John S. Massey, (col.) Monroe.
D. M. Moser, Conover.
C. J. Parlear, Boone.
E. N. Heard, Asheville.
Chas. S. Mangum, Chapel Hill.
Ed. J. Pearson, Asheville.
Hughes B. Hoyle, Jonesboro.
Frank G. Wilson, Gastonia.
W. Mitchell, Lewiston.
E. R. Morris, Asheville.
E. B. Lattimore, Shelby.
Leonard P. Aaron, Mt. Olive.
Banks Withers, Davidson.
E. M. Griffin, Winston.
E. W. Lister, Elizabeth City.
L. E. Ricks, Pantego.
E. M. Brown, Washington.

E. Sam'l Browning, Pleasant Grove.
C. M. McCracken, Clyde.
S. B. Medford, Clyde.
H. C. Hamlen, Winston.
A. H. McLeod, Keyser.
B. B. Hauser, Yadkinville.
J. L. Lister, Elizabeth City.
Joy Harris, (female) Summerfield.

Total 60. Fifteen were refused.

Dr. Chas. S. Mangum, of Chapel Hill, won the Appleton Prize on a grade of 94¼. Dr. A. P. Davis, of Winston, won the second prize offered by The G. H. Harvey Co. His grade was 93⅓. Better papers were presented, and higher grades made than in former years. The terms of service (six years) of Drs. Whitehead, Picot, and Long having expired by limitation, their places on the Board were filled by the election of Drs. David T. Tayloe, of Washington, Thos. E. Anderson, of Statesville, and Richard H. Whitehead, of Chapel Hill. A conference of the members elect with the retiring members was held in Room No. 3, Hotel Phœnix. Dr. Chas. J. O'Hagan was invited to preside over this conference, as he did six years ago when the present retiring members were elected. He recalled the incident with pleasure, and made some most happy and appropriate remarks. There was a free interchange of thought, and most pleasant speeches were made by all the members present. Dr. Hays offered resolutions of thanks to the retiring members for their faithful and efficient services. The resolutions were adopted and ordered spread on the minutes. There being no quorum of the Board elect, it was impossible to organize. Ballots for the new President and Secretary were ordered to be sent to Dr. Picot within thirty days, who will declare the result through the JOURNAL. There being no further business the Board adjourned.

L. J. PICOT, M.D., Secretary Exofficio.

## NORTH CAROLINA BOARD OF HEALTH.

Conjoint Session with the State Medical Society, May 13, 1896.

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The Conjoint Session was called to order by Dr. Geo. Gillet Thomas, President of the Board of Health.

As the first order of business the session listened to the following address of the President:

The cause of preventive medicine, which we represent, is receiving everywhere the increasing support of the laity and the law-makers; and it behooves us, therefore, to carefully consider all the problems that the session may present to us.

Men of thought and genuine public spirit, men who are not politicians from any selfish motive save the laudable ambition of helping and being accounted as promoting all measures that will bring the greatest good to the greatest number. Men of scientific attainments, not the mere scholar and student, but men possessed of knowledge that they can and do turn to a practical use, all men of great worth and close observation are flocking to the aid of the sanitarians.

In proof of this the meeting of the American Public Health Association is largely composed of laymen, but they are just as much interested and in earnest as the professional men and the quota of the work which these lay members furnish is just as important and impressive as that sent in by the members of our medical profession. We feel, therefore, that we ought to seriously ask ourselves if we each and every one are doing all in our power to aid in the work of the Board of Health of this State.

During the year just ended, your Board of Health has been less conspicuously employed than in former years, but they have been none the less active. Under the skillful guidance of their most efficient secretary, Dr. R. H. Lewis, the work has become more and more systematized and the only flaws of importance in the laws at the present are the want of more mandatory powers, and more money to effect the execution of the orders of the Board.

The health meeting at Washington, one of the missionary sanitary conventions, of the purpose and scope of which you were apprised last year, was a marked success and is bearing legitimate fruit right now. These meetings will be repeated just as often as possible. It must be remembered that the personnel of the Board is composed of active practitioners and laymen who are always intensely engaged. Due consideration for the life work of these men must be had always in projecting and carrying into effect one of these meetings. There is no doubt that the examination of drinking water here and there all over the State, examinations made to clear up the history of outbreaks of disease, has opened the eyes of the people to the necessity of

more care in the provision of the water they use. Coupled with this is the work of Dr. Lewis in the study of the connection of malaria with drinking water. It is quite impossible to measure the extent of good that is the outcome of his earnest labors in this field. I know of a certainty that it has impressed people who have never heard of or read his excellent monograph, but have come into possession of the facts which he so admirably set forth. Those of you who saw the exhaustive report or Dr. Pate on the sample of water sent to him from Wilmington, and the clear connection that his examination established between the drinking water used at a gathering of young people and certain cases of typhoid fever occurring among them, will realize of how much importance this new departure of the Board of Health is worth.

I believe it is a fact that typhoid fever, that deadly scourge, is a preventable disease, and that gradually it will be so environed by preventive measures, that it will be stamped out. This hope and belief is no doubt to be realized in a future, more or less distant, but it is a well founded hope never the less. Tuberculosis, the great rival of enteric fever will also be controlled, and materially lessened, or be made to vanish, as the laws for its control are gradually evolved from the study and efforts of the sanitarians. These are not vain hopes, or utopian dreams. Cholera has been corrolled, yellow fever has been stopped at the border, smallpox is isolated and checked by vaccination, and these are the work of health authorities.

There is a subject worthy of your serious consideration both as citizens and physicians. There are, as many, I might well say all, of you know, a large class of insane people who are classed as incurable, and on account of the incurability of their mental troubles they are in some of the counties gathered in the alms house—in others confined in jails, and in all of the counties a large number of them go about at large, constituting a menace to the communities in which they live, as well as often imposing a burden upon the household that is really unable to care for them. It is safe to say that no insane person, no matter what the character of the mental aberration may be, is other than a dangerous person and liable to do damage at an unlooked for moment; or in the case of females become the prey of brutal men. This subject was presented to you in Raleigh at the joint session of 1893 by Dr. Hodges, and it is opportune now to revive it. He did not suggest any plan for the relief of these dements that was seized upon. It seems now that something ought to be done, and to elicit discussion and an exchange of opinion, I propose that you consider the propriety of asking the legislature to provide district asylums for these people. The general asylums are not large enough to accommodate them, nor is there any provision for them in the financial budget of the State. As you meet them in your rides through the city streets or along the county roads, or see them in homes, where they

are unwelcome inmates, you often wonder why some sort of law is not enacted, providing for the isolation and care of the poor helpless creatures.

At present, as I have said, they are cared for in some places better than others by the county commissioners and are pensioners upon the tax payers. It seems that these dements could be gathered together in groups, as for instance all of the counties in a congressional district sending their pauper insane, who can not be admitted to the general hospitals at Raleigh, Morganton or Goldsboro, to a hospital to be established at some central point in the district and maintained by the counties comprising this district. If too many counties were in any of these districts other divisions of fewer counties might be made. Provisions for the control and care of these hospitals and the inmates could be made by a general board of control under the guidance of the Commissioners of Charities, assessments to be laid on each county according to the number of inmates sent. This plan would increase the salaried officers of the State and unfortunately would necessitate more political appointments.

This plan or some other should be adopted for the care of these unfortunates, and this would naturally lead up to the establishment of schools for feeble minded children, enabling them to be taught to be of some service to themselves and to the State. This neglect of these stricken people has been too long allowed, and their wrongs and needs cry aloud for redress. We hope to have the matter seriously considered and to present it again until some action is taken.

There is another subject that needs legislation.

The health resorts of the State are growing in number and importance. Those that have risen to the rank and dignity of towns are under some sort of medical and municipal control. But the large majority of these places, provide only for summer visitors, and are under no regularly instituted supervision in matters of hygiene. The consequence is that sickness of more or less serious nature is the first thing that arouses these people, the hotel and boarding house keepers, to the necessity for any care for their sanitary surroundings. It would seem, therefore, that at any of these resorts where large numbers of our people congregate during the hot months of the year, if there is no responsible health officer to direct matters, that the Board of Health of the State should have the power to interfere in behalf of both the householders and visitors and establish rules and regulations for their safety, with the power also to inflict penalties for violations or neglect.

Let me thank you for your interest in the work which, as your delegated authority, we have been doing and bespeak a continued and increasing interest in the labors of the Board of Health.

Dr. O'Hagan said:—I am sorry to say that in many instances the position of health officer in many counties is eagerly sought for and competed for by

medical men who have not the honor of the profession at heart, nor who duly appreciate its dignity. It has degenerated down into a little miserable petty office which has not been properly remunerated. The suggestion made by Dr. Thomas as to the sanitary control of mineral springs and health resorts is I think very timely. I beg to suggest to his consideration and that of the Board that there should be some legislation giving them power to exercise jurisdiction over large boarding schools throughout the State, which I think, in at least one instance that I know of, totally disregarded all sanitary laws. There has been a lamentable neglect of control of these institutions as to proper feeding, sanitation of building and the surroundings, proper lighting, ventilation, etc. In some I know the pupils have not been properly fed. I know one instance where the water which was used for ice was taken from a pond which was largely contaminated by poultry and other living animals, and large portions of filth, etc., had been piled up during the winter season for the use of the pupils the following season. Sanitation was grossly neglected. Then the lighting of the study rooms was insufficient and unhealthful, and the result was a great prevalence of eye diseases. Whether the present sanitary legislation of the State empowers the Board of Health to pay regular visits, I am not aware, but if it does not give power to control these matters to some extent, it certainly ought. As to the care of the insane I appeal to the members of the Society to interfere in some way or other for the relief of these unfortunates. But even supposing that there was any efficient legislation I think that there should be an entire change in the methods of providing for the care and sustenance of the unfortunates. We have been spending large sums of money in completing buildings, and if this money were properly distributed, it would enable us to take care of twice that number in a more efficient manner. I make these suggestions, that there should be some means by which sanitary visits should be paid to public schools, that it should be made the duty of the superintendents of education (who are generally unfit for the position) that they should insist that the light, ventilation, and drinking water should be the best that can be had. In many instances I know the drinking water is not good. I know that the light and ventilation is totally insufficient, and prejudicial to study and health. I think that instead of having great central hospitals like those of Goldsboro and the Raleigh Insane Asylum, which would involve an enormous expenditure of money, they should be done away with, and a building of more humble degree should be erected in each congressional district, and the expenses would come immediately out of the pockets of the people of that Congressional district, and the one who has charge of this building would be held strictly accountable for the condition of it, and would be directly under the eye of the friends and relatives of the unfortunate inmates.

Dr. Murphy agreed with the President that no insane person could be con-

sidered as safe—they are liable to become dangerous at any moment. He explained the condition of the buildings of Morganton, and while the cost per bed at the present time was above $200 probably, this included the original cost of the grounds and executive buildings. He had mapped out plans whereby additional quarters could be supplied, on the colonization plan at considerably less than $100 per bed. He thought it would be more economical and more beneficial to provide room at the existing asylums than provide many separate institutions.

The Secretary, Dr. R. H. Lewis, read his report which was received.

On motion the conjoint session adjourned.

# [APPENDIX.]

## PRESIDENT'S ADDRESS.

By R. L. Payne, M.D., Lexington, N. C.†

*Gentlemen of the North Carolina Medical Society:*

In accordance with custom it becomes my duty to address to you a few remarks on this occasion, but first let me once more thank you for the high honor conferred on me in electing me your President and let me also bespeak your kind indulgence, your aid and sympathy while I attempt to discharge the duties of my office. The day I took your gavel and felt that for a time you had placed the destiny of this grand old Society in a great measure in my hands was the proudest of my life and in the years to come "the greenest spot in memories waste," will be the thought that you, the most self-sacrificing, the most learned, the most chivalrous, the grandest of all organized bodies in the old North State conferred on me the highest honor in your gift. And yet with all this sense of pride is mingled the bitterest feeling of my own unfitness for the task you have laid upon me and so once more I beg that you sustain me with your counsel, and that you bear withmine "oft infirmity." Another year with its joys and sorrows, its successes and failures, has drawn to a close and once more we come together in joyous reunion of friend with friend, our hearts bounding with pleasure and our souls filled with noble purpose to advance the best interests of our grand old profession while we seek new light and better methods for the healing of disease. It is true that virtue brings its own reward and organized, as this Society was, alone for the advancement of medical science, have you ever paused to think how much it is doing for us in other ways? Have you ever thought how much of stand-

†Removed to 107 York St., Norfolk, Va.

ing in your profession both at home and abroad it gives you to be known as a member of the North Carolina Medical Society? Do you know that although we have no large cities and hospitals, and, hence, no opportunity for any one physician to rise to preeminence yet the rank and file of North Carolina doctors is unequalled by that of any other State in the union, and all of this is due to the far reaching work of your Society through her Boards of Medical Examiners. But apart from things material, have you ever paused to think how much this Society is doing for us in other ways? If you have been forced to remain at home from one of its meetings have you not felt a something lacking in your life all the year until at the next annual meeting the unknown want was filled as you clasped in your hand the hand of your friend, and, laying aside for the nonce the pill box and scapel, you took brief respite from your labors with those who like yourself have borne the heat and burden of daily conflict with disease and death? You may seek diversion in any one of a thousand ways; you may spend weeks in places of public resort, the seaside, the mountains, in pleasures halls with song and dance and wine, and while you gain some respite from toil and care yet no diversion is so restful to the physician as social intercourse with his fellows, because they alone can know the full significance of his triumphs, the full weight of his burden of unrequited and unappreciated toil and care and so in social intercourse with these,

"Some chord in unison with what we hear
Is touched within us, and the heart replies."

Oh, this strange thing called sympathy, how it wooes us and wins: how it brings like to like, how it lightens our sorrows and dispels our gloom.

"It is the silver link, the silken tie
Which heart to heart and mind to mind
In body and in soul can bind."

Did you ever think of the inspiration to renewed exertion and nobler effort that you catch in our sessions? Did you ever realize how the simple contact with the bright minds and improved methods of our fellows brushes away the rust from our own minds and fills us with desire to investigate new fields of thought and to pursue more rational plans in the treatment of disease? Oh, my fellow members if you have never paused to think, you have never realized all the refreshing and renovating influences brought into your lives by these few days snatched from the busy, toil-laden months of the year. To me at leat attendance upon your meetings has been a perennial dip into the fountain of youth, reviving my ambitions and bringing once more into view—perhaps only on the distant horizon of life—many lost hopes. But let us take a less selfish view and ask ourselves what is this Society doing for the cause of humanity. Here too, the record is a grand one. The child of old, slow, North Carolina, though she be, we find your Society doing pioneer

work in the matter of medical education, for as you well know, as the result of the wise efforts of the members of this Society, North Carolina enacted the first practical medical law ever enrolled in the legal statutes of this country and though for years she stood alone, upholding the banner of higher medical education, yet her silent influence has gone abroad in the land until now in almost every State and Territory in these United States may be found some sort of medical law having for its object the protection of sick and suffering humanity from the hand of incompetence. Think too, of how through the same influence the standard of the medical profession in the Old North State has been raised so high that it is a badge of distinction to be known as a 'North Carolina doctor,' and the requirements of your Examining Board are so rigid that it is said in some of the medical schools North Carolina students are given special training lest their graduates bring disgrace upon their Diplomas. In this connection, however, I wish to call attention to a danger that is menacing your Board of Examiners as well as your Society. Under present methods two new members of the Boards, are elected every two years and just here is a source of danger. With a constantly changing ensemble your Board of Examiners can never be so thoroughly organized as when changes were only made every six years. With a contest every two years for this highest honor in the gift of this Society the spirit of the politician is creeping into our sessions and is menacing the character of your Board of Examiners, for woe betide the profession of our State if the day should ever come when a man can be elected to a place on our Board of Medical Examiners because he is skilled in the practices of the ward politician, or for any other reason than personal fitness for the grave duties that devolve upon him. Furthermore, I believe it is a question whether under the wording of the act creating a Board of Medical Examiners we have a legal right to elect a Board in sections and for these reasons I most earnestly beg that you carefully consider the question of once more electing your Boards of Examiners to serve continuously a period of six years. Again, in spite of our excellent medical law and the work done by your Board of Examiners there are still a large number of illegal practitioners in North Carolina who should be forced to comply with the law or leave the State. This fact is partly due to the ignorance of the people at large and in some instances perhaps—and I say it with shame—to the fact that these illegal practitioners have been afforded the moral support of consultation with legalized practitioners, aye; even with some high in repute in this Society, and the fact is apparent that unless this Society take some action in this matter many years must elapse before the Augean Stables will be cleansed. What we need is not more legislation but a more rigid enforcement of existing law. Illegal practitioners should be prosecuted to the full extent of the law and the question is how is this to be done? Grand Juries are often too ignorant of

the law to prosecute for anything except the plainest felonies, unless there be some guiding hand; and the State's Solicitors are often too afraid of personal popularity to even permit themselves to know that a doctor, possessed of a little practice and a little influence, is a criminrl under the law.

The doctors of any given community hesitate to prosecute their illegal competitors because the community at large would be apt to look upon the action as the outcome of jealousy, and a great hue and cry of oppression would be raised to aid the escape of the criminal and bring patients to his doors. How then, is the law to be made effectual as a protection to a public incompetent to judge, as well as to those members of the profession who are themselves law-abiding citizens?

I know of no better way than that this Society should appoint a committee for the State at large, whose duty it shall be to report all persons practising in violation of the law, together with such evidence of the fact, names of witnesses, etc., that they may be able to obtain, to the solicitors of the different courts of the State and see that these offenders are brought to justice. It would be very easy then for the physicians of the different counties of the State to report to your Committee on Illegal Practitioners any violation of the medical practice act, giving time, place and circumstance, together with the names of the necessary witnesses, and this seems to me to be the most feasible plan which can in most instances be adopted to bring this class of offenders to justice.

A few words as to the North Carolina Board of Health, I trust will not be untimely. Daughter as she is of this Society, we are proud to know that the hearts of our fellows have been so moved by philanthropy as to seek the establishment of the Board of Health, but it is a question personal to each one of us to-day "Have I done my duty in sustaining and perfecting the usefulness of the Board of Health?" For most of us the answer would be "no" and the burden should lie upon your and my conscience. The law creating the Board of Health was enacted more than eighteen years ago as a result of enthusiastic effort on the part of a committee of your fellows. I—a medical student then—was present at your meeting in Salem when your committee reported the results of their labors and well do I remember with what enthusiasm that report was received.

All felt that North Carolina physicians had taken another step forward into the very jaw of progress, and well do I remember how it was thought the Society conferred its highest honor on poor old Dr. Satchwell, as a reward for his strenuous efforts to obtain the passage of the Health Law, by electing him to the proud position of President of the Board of Health. To-day, gentlemen of the Society, what is your Board of Health? A puling dwarf, a half-starved infant, scarce out of its swaddling clothes, making feeble, tottering efforts to walk, yet scarce able to make a step, the North Carolina

Board of Health stands to-day the monument of your neglect. These remarks are intended in no sense to reflect on those of your fellows whom you have elected to form your Health Board, for what have they been able to accomplish in the face of your cold indifference. But you say it is no fault of the profession of the State; the fault lies in the inadequacy of the Health Law and the puerile appropriation for its administration. True gentlemen, the law is in many ways imperfect and the appropriation made to pay the expenses of the Board of Health is simply ridiculous. When we contemplate all the far reaching issues involved in the effort to promulgate the preat principles of hygiene among our people, the suppression and prevention of death dealing epidemics and the study ot the vital statistics and climatology of North Carolina we could almost believe the angels weep when they look upon the short-shighted policy of our quondam legislators; but none the less the question "Have I done my duty by the Board of Health" is one pergnant with meaning for you and for me. Have you ever looked over the Bulletin of the Board of Health and noticed how few physicians make monthly reports to the County Superintendents of Health? Do you know that even in the matter of reporting contagious diseases for quarantine that there is such reluctance on the part of many physicians that they are slow to declare a diagnosis lest they incur the displeasure ot patrons who are unwilling to submit to the restraints of quarantine? What have you done to educate the public minds as to the necessity of placing contagious diseases under surveillance, and the protection of the public from disastrous epidemics, by the rigid quarantine of all persons liable to diffuse the contagion?

What have you done to aid in the work of gathering vital statistics; or what have you contributed to the study of our climatology? Most of us would have to answer, in reply to these questions, nothing; and yet we fail to realize that in this simple neglect of duty we are also robbing ourselves of patients and fees, for when once the low death-rate of North Carolina and her wonderful climate which, as we pass from her seashore to her mountain tops, combines all the advantages of the plains of Southern France with the mountain heights of Switzerland—when once this wonderful climate and low death-rate are undersrood, we will be the envied people of the world; our waste places will blossom as the rose and our whole State will be flooded with those who seek health in our borders and who will be only too glad in return for this boon to help push onward our car of progress. Let us each one resolve then to lay aside our apathy in these important matters. Let us do all in our power to make the Board of Health a potent factor for good in North Carolina not from any selfish motive, but for the great cause of humanity. If it be necessary, let us resolve even to make some self-sacrifice that the tide of disease and death may be stayed and the material interests of our grand old State be advanced. Before leaving the subject of the Board of Health

I would strongly urge that at the next meeting of our Legislature an effort be made to procure an amendment to the law requiring some sort of examination and registration of midwives. As matters now stand a large number of still-born children, a large per centage of the maternal mortality of childbirth and a still larger per centage of women whose health has been ruined is justly chargeable to the incompetence of mid-wives.

How many cases of purulent ophthalmia, leading to hapless blindness, are chargeable to the want of proper precaution on the part of the mid-wife? In how many cases of breech-presentation is the mid-wife competent to deliver the after-coming head? How many lives are lost from puerperal septicemia; from pyemia; from post-partum hemorrhage, due to the lack of aseptic method and general ignorance of these would-be doctors and, what is of still graver import, what a wail of agony is going up all over the land from women suffering from lacerated cervices and perinnei; from septic endometritis and pyo-salpingitis; all due to the want of knowledge on the part of the mid-wives of the simplest principles of asepsis and antisepsis. There is no way to reach this matter except by legal enactment. The laity are too ignorant and I might almost say, too indifferent, to know the dangers they incur; and though it is perhaps not best, in the existing state of public opinion, to debar these old women from practice still the law should hedge the unborn babes and suffering mothers of the poorer classes in our communities with its protection, and require mid-wives to give some evidence of fitness for the grave duties they undertake to perform. You and I have a duty to discharge to humanity just here and the question is will we shirk it.

And now having touched lightly on certain medical matters which concern us in our own State I wish to add a few words concerning some growing evils which seem to me to affect the medical body politic at large. The Proprietary Medicine evil is growing apace and the question is why do physicians use proprietary medicines at all? Is not our materia medica filled with a sufficient variety of drugs? Are not our physicians sufficiently educated in the properties and uses of these drugs to combine them into pills and mixtures and wines and elixirs? Are not our pharmacists sufficiently grounded in their art to compound our prescriptions intelligently? The answer to these questions should be "yes," and if we cannot answer affirmatatively then physicians and pharmacists alike need another course of study. But we need not argue this matter at all for we are bound to admit that the use of proprietary medicines is encouraged, not by any incompetence of either physicians or druggists, but simply by reason of the enterprising advertising of the manufacturers and the laziness of the physicians, and it is well that we should remember that this same laziness is fattening the large manufacturers while it damages the business of the physicians; often proves a source of evil to the suffering patient and robs the home pharmacist of the just rewards of his

labors. Many of these preparations are good, but many of them are incontently bad. Most of them live only so long as they are widely advertised and while none of them are advertised save to the profession alone, all are put up in gaudy wrappers with fancy trade marks and it soon happens that—some how or other—the laity get hold of them, prescribe them for themselves and their friends, often doing great harm by mistaken use of the remedy and interfering materially with the legitimate rights of the physician. Again, the proprietary medicine is supposed to be prepared in certain definite proportions and the doctor is supposed to prescribe it for certain definite conditions and yet we all know that in the use of any given remedy we can rarely prescribe the same dose for any two consecutive patients; and so in the use of proprietary therapeutics we are often forced to inaccuracy of dosage for we all must admit that we cannot administer these medicines with much accuracy unless we adhere to the dose of the manufacturer. Finally the proprietary medicine is generally put up to contain a minimum dose of the drug to the drachm or ounce and so in administering these preparations we are often bound to give doses large in bulk, and as such things are usually sold at prices depending largely on bulk we often add unnecessarily to the expense of the patient. This is a subject which demands our sober thought, but time forbids that I should argue it further and so I pass on to notice the *book evil.* Holy writ tells us that there will a day come "when of making many books there will be no end" and it seems to us possible that especial reference must have been had to the American Medical Publishers of this nineteenth century. This is the day of medical systems; of special brochures; of new editions whose only merit in the way of *additions* consists too often in the introduction of "magnificent colored plates," as the publisher says, to illustrate the text and which the purchaser frequently finds to mean about two gaudy illustrations, whose chief characteristic is red coloring matter. There are too many new books published and what we need is not many books but better books. The spirit of the "shop" the "trade impulse" has gotten too strong a hold of our medical publishers and—alas, that I should feel compelled to say so—the medical profession are helping to foster this spirit by becoming *particeps criminis*, for it is all too apparent that much of the copy furnished is but an effort to give *quid pro quo.* No man should write a book or even an article for a Medical Journal unless he has something to say individually to the profession and yet much that is found in our great medical systems is but the veriest "hash," written frequently by mere tyro's in medicine, themselves entirely without experience, they are forced to cull *alone* from the experience of the fathers, and so buying the new books as they are issued we buy over and over again the same matter that has long lain unnoticed on our book shelves The medical publishers are largely to blame for this sort of thing, for taking advantage of some poor fellows ambition or oftener, his necessities they have him grind out" an article for "filling in"

the great financial enterprise they are pushing forward to "*fill a long felt want.*" There is entirely too much of this sort of thing; but we have only ourselves to blame, for if the profession were not so eager to buy the works of these enterprising publishers the market would be less filled with so much useless and unnecessary literature- Do not misunderstand me. When a man has anything original to say, by all means let him say it; but certainly it is not always necessary to write a special treatise, made up of all that has been written in the ages gone by upon the same subject, in order to introduce to the profession his own little idea or special method. In this connection it might be well to say just a word as to the total unreliability of a great deal of the medical journal literature of the day. A great deal of this is the product of ambitious pens, and is given to the world too soon, before the subject matter has been properly digested or the results of given methods sufficiently studied. For instance, some time ago I read an article reporting a brilliant plan of treatment for that scourge of infancy, cholera infantum. The report was based on the treatment of a single patient and the case given in detail. I happened to know all the facts in the case and the report was written during one of those temporary lulls in the severity of the symptoms during which the sanguine physician thought convalescence was established; but the night after the report was mailed to the journal the symptoms all returned and the little sufferer soon passed beyond the reach of human woe.

The report was published and who can tell how many innocent babes were sacrificed by those who read of this wonderful new treatment, and knowing nothing of its terrible results assayed to try the methods therein taught. In another case three laparotomies were reported as successes and yet had the writer but waited to know his results he would have written differently, for only one of these patients ultimately survived. These things have fallen within my own ken. How much of current medical literature is of the same character, not through any want of truthfulness on the part of those who write, but because much of current medical literature comes from young enthusiastic authors, too ambitious to wait and let time test their results, or perhaps too inexperienced to properly interpret the difference between cause and effect? And now, in concluding these desultory remarks, I wish very briefly to notice another growing evil and that is the passion for operative surgery, which seems to have seized upon us. That the knife is the greatest of all therapeutic agents has gotten to be a regular professional "fad" and not long ago, while on a visit to a little city, I was much amused to find every doctor I met was a laparotomist, and all seemed to think *this* was the *sine qua non* of professional standing. Alas, for those who still cling to the materia medica, "Othello's occupation's gone." In the transactions of the American Laryngological Association, 1895, Dr. F. H. Cosworth, of New York, reports a case of grave depressive melancholia cured by freeing, with a saw, the

nasal septum and middle turbinated bones of thickened tissues. Prior to the operation of Dr. Bosworth this patient, for the relief of his melancholia, had at different times been operated on for varicocele, stricture, ligation of the pudic artery, castration and hemorrhoids. He had worn glasses, had his eye muscles cut and one eye enucleated. He had been circumcised, had his spine cauterized and worn a seton in his neck; and now when this melancholic patient relapses from Dr. Bosworth's operation what is to be done for him? His ears could be cropped, his sphincter ani dilated according to the latest methods of the new specialty "orificial surgery" or forsooth, after all, a resort may at last be had to medicine and some skillful physician find all the ills of the poor wreck of the knife to be due to a torpid liver or a diseased stomach. I tell you gentlemen, tho' surgery has made grand strides in these latter days we are presuming too far upon the safety of modern methods and it is a serious question whether or not many mutilations executed by the surgeon of to-day do not fall within the category of malpractice. Spending some weeks lately in one of our large medical centers I was struck with the fact that each operator seemed desirous of exceeding all others in the boldness of his methods, and the anxiety to make another report of "my last fifty cases" seemed in some instances to almost outweigh every other consideration. The gravest operations were undertaken upon the slightest pretexts and a large number of the prominent operators were said to have a suit for malpractice on the tapis. I think in my own little experience I have seen many scores of ovaries removed whose macroscopical appearance gave no evidence of disease and well do I remember the agony of a poor husband whose wife had died under the "simple and comparatively safe" operation of vaginal hysterectomy and whose uterus was found subsequently by a distinguished microscopist to be free from malignant germs. Poor, long-suffering woman has been the greatest sufferer for it seems the day is yet far distant when the new operation for enlarged prostate will be popularized among our male patients and therefore in the names of the wives and mothers of the land I beg the modern surgeon to stay his ruthless hand. Do not misunderstand me gentlemen. I am a great believer in the surgeon's knife, but I dare not let this opportunity pass to raise a warning voice; for in my eyes one of the gravest dangers of the hour is the lack of conservatism.

And now my task is done. At the risk of being considered a pessimist I have spoken to you very plainly of some things which to me it seems are worthy of serious consideration. In many respects my message has been distasteful to me, but all that I have said has been spoken in loving duty to the grand old profession of the old North State of which I have always felt honored in being myself an humble member.

†Removed to 107 York St., Norfolk, Va.

# INTESTINAL INDIGESTION.

By W. W. McKenzie, M.D., Salisbury, N. C.

The past few years have witnessed a marked advance in our knowledge of the chemistry of the digestive process, and of the role of micro-organisms in the alimentary canal under different conditions.

There are indications that disorders of digestion, which, in token of ignorance, were classed as functional not long since, are now in a fair way of being better understood and better treated, since we know the conditions which produce them.

Fermentation of food in the stomach and duodenum has long been a well known characteristic of certain forms of dyspepsia, but it remained for Milne Edwards in the year 1862, fresh from the study of Pasteur's work on lactic and butyric acid fermentation, to apply his results to the explanation of cases of acid dyspepsia and to declare that: "We are led to the conclusion that the phenomena of lactic and butyric fermentation, which are manifested in the digestive tube, may well depend upon the action of infusoria (or microbes), which live and multiply in the interior of this canal; a hypothesis which explains the production of two gases found here; viz.—"hydrogen and carbonic acid." Leared, in 1860, showed in "experiments as to the cause of heart-burn" that this symptom is due to the presence in the stomach of butyric acid, a product of lactic fermentation. A few years ago Vaughn presented a paper of great value on "Tyrotoxican as a cause of digestive disturbances in children," and T. Lauder Brunton on "Poisons formed from food and their relations to biliousness and diarrhœa." Frequent communications of this character in current medical literature, show the interest which has been excited in disorders of digestion by the works of Pasteur, Koch and many other investigators in the field of bacteriology and biology, and indicate the direction of further progress in the study of disorders of digestion.

Digestive disorders result naturally, both from eating food unsuitable in quality and quantity and impairment or incapacity of the digestive juice, or to summarize, to a want of relation between the food to be digested and the organism, owing to which the latter finds itself unduly embarrassed in its duties or entirely incompetent to perform them. We will now see if there are no special causes contributing to this result, and what agents may disturb this relation. The digestive secretions, in the normal conditions have been demonstrated by experiments outside the body—whether from the salivary glands, from the stomach, or from the liver, show a remarkable power of resistance to putrefaction. Our limits are too restricted for details of the digestive process, but in a general way it may be stated that from the time the food is taken into the mouth, it is constantly under the influence of the

digestive fluids, aided by muscular action, which keeps the mass in constant motion until it reaches the sigmoid flexure of the large bowel where it temporarily accumulates.

The total quantity of fluid poured out seems large, but it must be remembered they are absorbed almost as soon as poured out—so that there is no excess of fluid in the canal during digestion. The entire quantity thrown out during the day is affected by the nature and quantity of the food, and many other conditions; but it may be stated that the food is subjected to—in twenty-four hours—the action of about twenty pounds of digestive fluids (saliva 1 to 3 pounds; gastric 14; pancreatic secretion ½; bile 3 to 4; intestinal juice ½). Digestion has been therefore considered as a rinsing process in which the proximate elements of food are first made soluble and dissolved and then absorbed through the epithelium of the stomach and intestinal tract.

As Pasteur and Tyndall have shown that without microbes, fermentation and putrefaction do not occur, and as Abelons says "That very little of the action of these microbes goes on in the stomach, because in the normal state, the food remains in the stomach too short a time for this work to be completed; but when carried with the chyme into the intestine, they find here more favorable conditions in the longer exposure and the alkalinity of the surrounding media; since we all know that bacteria grow best in alkaline or neutral media.

MacFayden, Nineki and Seiber have succeeded in identifying seven microorganisms which gives rise to fermentation in the small intestine. So that when the fermentation of the gases and acids by bacteria becomes excessive, the condition is usually spoken of as "Intestinal Indigestion" or amylaceous dyspepsia. The symptoms of this disorder are flatulence of gases, accompanied by acids. Bowels are usually constipated—there is more or less pain in epigastium, headache, and a feeling of dullness, as a weight on the head; palpitation of the heart, cardiac pain; tongue coated on back part of a creamy white or yellowish. Normal digestion of all starches, under the action of the normal amylotolic ferments converts starch into sugar. The digestion of cane sugar (saccaharose) is accompanied by transforming the cane sugar into a mixture of dextrose and levulose commonly called invert sugar. The ultimate end of any digestion of any carbohydrate, is a reducing sugar. This reducing sugar is absorbed from the small intestine, because the bulk of the digestion of starches occurs in the duodenum or small intestine under the influence of the amylolotic ferment of the pancreas. All the sugar so formed in the duodenum is not absorbed. Some of it undergoes further fermentation under the influence of bacteria and produces various acids and gases, so that there is always present some gas which has originated from the carbohydrate food ingested, and enough acid to maintain an acid reaction in

the small intestines in spite of the sodium-carbonate present in the pancreatic juice.

Dr. W. S. Christopher, professor of diseases of children, Chicago Polyclinic in a paper which occured a few months ago in *The Therapeutic Gazette*, entitled "The So-Called Intestinal Indigestion" says that: "The term indigestion is eminently improper in this connection. That it is not an indigestion but rather a further splitting up than occurs even in normal digestion;" and he says further, "none of the micro-organisms, so far as known, which produce these gases and acids, produce them directly from starch, but only from the sugar; that is to say, before the abnormal products may be formed, there must first occur a normal digestion of the starches, and the abnormal products are formed from the products of the normal digestion." He also says, "there is reason to believe that the lactic acid may be split up further under the influence of a butyric ferment into butyric acid, carbonic acid gas and water. Such alcohol as is formed may also undergo the acetous fermentation, and resulting acetic acid be subsequently broken up, giving rise to carbonic acid gas and marsh gas." So that this affection should be termed "super-digestion" instead of "indigestion."

However, Dr. Christopher's point is well taken But it is not my purpose to discuss in this paper whether this affection is "super-digestion" or an "indigestion," but rather to show that the so-called intestinal indigestion is dependent upon the starch and saccharines for its existence and upon the action of bacteria which live and multiply in the interior of the alimentary canal and produce the fermentation of gases and acids in the small intestine, and that the bulk of the digestion of the starches takes place in the duodenum under the amylolotic ferment of the pancreas, and that very little of the action of the microbes takes place in the stomach, but mostly in the small intestine, since they thrive better in an alkaline media.

And now as to the treatment of this disorder. First we must withhold from the food of the patient all carbohydrate material so as to starve out the micro-organism—which if carried out long enough will have the desired effect—they will certainly die. But as it is impossible for the patient to gain flesh and strength without carbohydrate food, we must find other remedies. We must try to digest a considerable amount of the starch in the stomach, so that the resulting sugar is quickly absorbed and does not reach the seat in the small intestine to cause these disagreeable symptoms. If this can be done, enough carbohydrate can be digested, and prevented from ever reaching the small intestine, to meet all the needs of the patient, while we then starve out the micro-organism in small intestine. To accomplish this I have found "taka-diastas" is by far the best drug. It is a very active diastatic ferment and gives quick relief. I give it immediately after meals in doses of 3 to 5 grains, and in some cases there was almost instantaneous relief. As an instance of this

drug I will report the following case: Only last week I was called to see an old lady, age 60, suffering from intestinal indigestion and I prescribed taka-diastase, grains five, to be taken at once and my patient claimed almost instantaneous relief. Since then she has been taking five grains immediately after each meal and has not experienced any further trouble. I shall continue this treatment in her case for some time.

DISCUSSION.

Dr. Faison said: This disease of intestinal indigestion is one that troubles a great many of us. Last year there came under my care a young lady patient in my town with this very disease, and in the beginning it simulated malarial disorder, and for a few days I was at sea to know what I had. The poisonous gases due to putrefaction in the bowel from this indigestion were carried to the liver producing the bilious condition we see when we have malaria. But with mercurial treatment, by emptying the bowel, the liver soon showed that it was not diseased, but was only irritated. Fermentation continued, and just what Dr. McKenzie stated in his paper took place· Gaseous fermentation, distending the bowel, which went on from bad to worse until she shed the mucous membrane of the bowel. Time and time again I have seen as much as twelve inches of the intestinal mucous membrane exfoliated. She had fever when first taken, but in a few days it subsided, and we had no further trouble. I tried the starvation treatment to get rid of the micro-organisms, but with not very good effect. But with the starvation and eliminative treatment, with antiseptic treatment of the bowel, after a persistent treatment of nine months my patient got on her feet. I am very glad that Dr. McKenzie brought this before the Society, and I hope that some other gentleman who knows more about it than I do will discuss it.

# RHACHITIS—A PLEA FOR ITS PREVENTION AND EARLY RECOGNITION.

By I. W. Faison, Charlotte, N. C.

*Gentlemen:*—You and I are well aware that I have brought to you to day a very old disease, but yet an interesting and important one; one that has been recognized, and about which much has been written for centuries. Still I fear that it has been too often overlooked till it has made severe inroads into the frame work of our little patients. It is at the very beginning of this disease or even before its beginning that I desire chiefly to call your attention, for after the disease goes on until its regular type is reached, with its boxed head, open fontanelle, pigeon breast, beaded ribs, protruding abdomen, prominent epiphysis at the wrist, curved spine, bowlegs, and relaxed muscles and ligaments, it can be readily detected by even the most casual observer. What are the causes? These are several, viz, congenital predisposition when the parents are weakly constituted, either from tuberculosis, syphilis or any general debility of the mother during gestation, and these only so far as they go to reduce the strength and impair the normal function of a perfected organism; bad hygenic surroundings, filth, foul air, want of light and heat, food disorders of any kind, producing long and continued vomiting, diarrhœa, and withholding the proper kind of food. All these may work together to produce rickets, still it is not necessary that all of these causes be present at one time, for in many cases where after seeing the parents, you would look for rhachitical children, but do not find them. It is true that when the hygenic surroundings are the worst, it does not always abound. In many palaces, where the hygienic surroundings are all that one could wish for, with strong healthy and robust parents, you will readily recognize rickets, for I have seen well marked cases of rickets, among the most wealthy people, where the children enjoyed everything in the way of good hygiene, and in fact everything except the one important thing to-wit: the proper quality of food. On one occasion I was called in to see a little girl patient of a very wealthy family who had gradually gone down and down with recurrent attacks of disordered food diarrhœa. After a careful examination, I made the diagnosis rickets. When I gave my opinion to the fond mother, the most dejected, careworn and burdened expression came over her face I ever saw. With disgust in her very look, and in her tone of voice, she said, "Why doctor I did not think that anybody but negroes and poor people ever had the rickets." To hold my position in the family I had to bring to bear all my pursuasive powers, but with an assured promise on my part that a rapid and complete cure would soon follows, he trusted, and helped me to carry out the treatment in every minutiæ, and very soon the reward came, and the

little patient unless told by her mother will never know that she had the rickets. As this fond mother looked at it so hundreds and thousands of other mothers look at it, and I fear that a good many physicians look at it in the same way to-day.

The food disorders and catarrhal conditions of the alimentary canal, are very important causes, as they tend to induce the disease, and dam the way between the food properly administered, and its proper assimilation. The withholding of the proper kind of food is the most important of all the causes, for while the other causes already enumerated tend to produce such a condition in the system for the speedy induction of rhachitis, still with all these causes sufficiently at hand, with plenty of good food of the proper kind, and in sufficient quantities, we will see the little patient develop. Another important cause is the conception of the mother while nursing, and especially from about the fifth to the seventh month. The milk at once becomes vitiated, digestive disorders set up in the child, and rickets at once appear.

SYSTOMS.

As I have already thrown aside the regular type of this disease in this discussion, what symptoms shall we rely on for its diagnosis in the beginning?

You are well aware that it is a disease belonging mostly to the first two years of life, and authentic cases have been recorded of congenital rickets. I want to say that it is a disease that every child is reasonably liable to, and also that it is a preventable disease, therefore it behooves every physician to be on his guard from the first moment a babe in put under his care. For an obligation rests upon him that he must recognize and meet, or through gross carelessness or ignorance he sits by and lets the little patient grow unnoticed into the very condition that I am discussing. The first few months, and till past the second year is a very important period to every child. If you can successfully pilot the babe through this period without falling into the quagmire of rachitis, then your reward will be a full grown magnificent specimen of man or a symmetrical and beautiful woman. You need not look for a full group of symptoms in making the diagnosis of even a regular type of rachitis, for in most cases only a few of these symptoms are present, and in the beginning the symptoms are very often overlooked, because not so clearly defined.

When you see a little fellow with continued constipation begin to lose flesh, his muscles get flabby, and especially of the lower extremities, crying out at night, head beaded with perspiration every time he drops off to sleep, restless at night, throwing off the cover frequently, and with every little cold laryngismus stridulus appearing, now an attack of indigestion, diarrhœa, then an attack of bronchitis, the teeth beginning to appear later than eight or ten months, the fontanelle slow in closing, and the veins all over the head distended with convulsive tendencies with very little rise in temperature, you

may at once suspect rachitis or rachitical diathesis. When these symptoms appear, it is the proper opportunity for the proper means to be used for checking its development. If you will bear in mind these symptoms, always be on the alert for them, and recognize their significance, you will be better prepared in all cases to treat them with more decided convictions, because every little case of food disorder, bronchitis, laryngismus stridulus is not best treated when only treated symptomatically.

I will first consider the preventive treatment. Examine well the general condition of the mother. See whether or not her mammary glands bid fair to supply food intended by the Creator. As soon as parturition is over, feed the mother on a full diet of good food, both in quantity and quality. In a few days see if the child shows normal increase. Examine carefully the milk supply. Find out how long and how often the child nurses. Very often the mother will proudly proclaim "Oh he gets all he wants, why he nurses all the time." This to an observant physician at once tells the tale. This certainly shows that there is not enough in quantity, for no healthy baby who gets enough food will remain at the breast more than five to ten minutes. Professor Emmet Holt's milk set for clinical examination of a mother's milk, will aid you in making the test readily and with sufficient accuracy to show you whether the quality is up to the standard. Both quantity and quality must be carefully observed. The best hygienic surroundings, and the full regimen of the best and most nutritious food for the mother, will do that which is possible to regulate the normal supply of baby food. Some medicines are recommended for this condition, but none have met my expectation. The quality of the milk supply should show at least 5 per cent. cream. If less than this between 2 and 5 per cent., with all the quantity you could crowd into the little fellow, he would not normally increase. No milk with only 2 or 3 per cent. of cream can be improved so that it will be sufficient for a baby to live and develop properly on. In such a condition you must remember the human milk analysis as laid down in your text books, and at once supply by artificial food the necessary amount, both in quantity and quality. A great many artificial foods are on the markets for babies. I desire to say but little about them. Sometimes we find our patient where we can use them to great advantage for just a few days. As a food for continuous use, to raise a baby with, I must unqualifiedly condemn them. True it is that you can keep a baby fat on them, and just here I wish to warn you, for under the blubber of such a child with a keen perception, you can too often recognize rickets in its insiduous work. Dr. Chaedle records a beautiful case in the prize baby at a baby show, rolling in fat from this very manner of feeding. So you can see in this condition "all that glitters is not gold." Recognize the fact that a baby must have the proper kind of food both in quantity and in quality, and then supply that demand, and you will have no rickets to treat.

As soon as rickets makes its appearance is the best time to treat it, hence the great importance of early recognition to regulate the food in proper quality and quantity is the first step. If you can use the mother's milk at all, be sure to continue it, and as an adjunct to this, the very best is the modified cow's milk, provided you can get the child to digest properly enough of it. My practice of late has been to Pasteurize milk instead of sterilizing it. Fairchilds Peptogenic Milk Powder has aided me a good deal to get my milk supply in condition for general use. If they cannot take a sufficient amount of milk, you must add other proteids in the form of raw beef, and soft cooked eggs or better the white of an egg well whipped, allowed to settle and skimmed, to which is added a little sugar. A little later on in life, after the weaning period rickets is often developed. Then an abundant supply of fats and proteids must be used. The fats viz: rich milk, cream and butter. The proteids viz: rare beef and soft cooked eggs, and the juice from one orange a day, will constitute the best bill of fare.

Medical treatment is very limited. The first four or five days I give one-third to one-half grain doses of hydrarg. cum creta. Full doses of cod liver oil, if assimilated, though this remedy should be considered one of the fat foods, syrup of lactophosphate of lime, phosphorus. Still I have never seen very much benefit from this drug in its free state. Iron in the form of the Gycerole prepared by Wyeth has given me splendid results.

DISCUSSION.

Dr. W. H. H. Cobb said: The doctor has said that rickets is a disease of babyhood, occurring most frequently under the age of three. The disease is very common in Europe, more so than in America, and is very rare in Canada. It is produced by prolonged lactation during gestation. He speaks of syphilis as being a factor. I find only one authority for that. He also says that if he can get a child over the second year that he is safe, but I think a good many of us will say that we are liable to find it up to the age of twelve. I find in my own experience that orange juice given in addition to the proper nourishment of the proper quality and quantity, is a great aid in restoring the child. As medicinal treatment, I know nothing better than cod liver oil, and lactate of iron combined with a syrup.

Dr. O'Hagan said: We are indebted to Dr. Faison for the very clear and succinct statement of the symptoms and treatment of a disease which I am very glad to say is rare in this State. As he said, it is generally supposed to be a disease of poor white folks and negroes. There is a great deal of truth in that. In large cities and mountainous districts where the people live in the valleys and are deprived of the sunshine, you will be apt to find it. Good light is essential to prevent it. It may be considered as a disease depending largely upon malnutrition and bad hygienic conditions. The diagnosis is quite simple, and I do not think his treatment can be improved upon? For-

tunately, while we may all be benefited by his paper, I am very glad to say that we are rarely called upon to treat the disease of rickets, because of a sparse population and plenty of good air and enough food, as we have in this country. Nevertheless, I regard the paper as a very valuable one, and compliment the author upon it.

Dr. Faison: In regard to the syphilitic taint, I think that Dr. Cobb will find it stated emphatically by quite a number of authorities that syphilis plays an important function in the causation of rickets. He spoke of the orange juice. I went over that in the paper, and suggested the juice of one orange a day. He was convinced of the importance of its early recognition. It could appear later, but if you get the child in proper condition, by two years he will have such a running start of the disease that it will never overtake him.

As far as Dr. O'Hagan is concerned, I am bound to differ very emphatically as to the rareness of this disease. I have practiced in three sections of the State, and do not think I have gone any week without seeing rickets. You will find it very often in the first child in the family. It affects the first child oftener than any other. I have noticed that, and it is the most important child to look after for rickets. It seems that the mammary glands are not in a condition to supply the proper quality of milk. I have seen this disease so often that I do not consider it rare. I consider it a disease that you are liable to run upon in every family every year you practice medicine, and I want to insist upon that point, that it is not a rare disease; that it is common, that it is in nearly every family in some form or other. In the last two months there was a child in Georgia who was carried to New York and treated by a specialist for spinal disease. He was sent back to Atlanta, and was in Atlanta last week completely cured because some country doctor recognized rickets and treated him for it, and the child got well. That is the reason I prepared this paper, to impress on you the importance of recognizing rickets, that it is not a rare disease, that it is a curable disease, and that it is a preventable disease.

The treatment is very simple. The important part of it is proper food. With the proper kind and quality of food, given in the proper quantity, you do not need much else. In some cases to hasten recovery I add cod liver oil and hydrargyrum cum creta because it stimulates the liver.

# MANAGEMENT AND TREATMENT OF TUBERCULOSIS IN THE ASHEVILLE CLIMATE—WITH REPORT OF CASES.

By J. A. Burroughs, M.D., Asheville, N. C.

So much has been written on tuberculosis in latter years, that one is constrained on opening the subject, yet when we consider that it is a disease which is largely preventable, and is killing off one-seventh of the entire human family, we are justified in noting our observations.

The diagnosis of pulmonary tuberculosis is no longer a question. He that has ears and experience can map out the diseased area of lung tissue with mathematical accuracy, and the microscope settles the presence or absence of the bacilli.

But two questions confront the medical profession.

First. The prevention of the disease.

Second. The eradication or arrest of the trouble when once contracted.

Tuberculosis is prevented by a proper climate, suitable food, and good hygiene.

To the lamented Alfred L. Loomis belongs the credit to-day, that climatology plays in the therapy of phthisis pulmonalis. It was he who first pointed out to the medical world, the great advantage these cases derive from a high, dry atmosphere.

Asheville is located in the western portion of North Carolina on a beautiful plateau, 2,350 feet above sea level, with a blue rim of mountains reaching several thousand feet higher into clear, ethereal space, practically robbing currents from every direction, of moisture, and at the same time, somewhat purifying the atmosphere by the pine forests and balsam groves which cover many of these mountains from base to summit.

We are so located by reason of our altitude, latitude, and geographical surroundings, as to have a fairly even temperature all the year round. The altitude is too great for a high solar temperature during the summer months. The latitude is too far South for a prolonged low drop of the mercury during the winter. We are protected from storms and March winds by the mountains that stand off high in space like so many sentinels, placed there by nature to guard the evenness of temperature, and purity of the fluid we breathe. In short, Asheville has an aseptic climate, an even, dry climate, just such a climate as is a prerequisite for the prevention, or arrest of tuberculosis. It is here that wounds heal most readily; and meats can be hung in the open air for days, without a grain of salt, and without putrefaction.

Such a thing as malaria is unknown with our people. When patients come here from other points, with malaria, it is soon eradicated. My reason for mentioning the above fact is, that malaria is a very annoying complication of tuberculosis.

Suitable food—nitrogenous food is an absolute necessity in the prevention or treatment of tuberculosis. The blood corpuscles and tissue cells must be kept in good fighting shape, so as to prevent a suitable soil for the bacilli, or the extermination of same, should they already exist.

The feeding of consumptives is too big a subject for this short paper. I will merely suggest that the alimentary canal must be kept in shape for the digestion and appropriation of good rich milk, eggs, rare beef steaks, and mutton chops.

These patients will frequently digest, gain flesh, and develop an appetite, on broiled ground beef, and hot water, when they have not even been able to assimilate milk.

Too much attention cannot be given to the question of hygiene in the prevention and treatment of tuberculosis. Ignorance, and carelessness of scientific facts and observations is the cause of the majority of cases to-day.

Two decades back, the medical profession did not know that phthisis was caused by a special germ, and that these germs were ready to ingraft themselves in any, and all suitable soil, setting up the same trouble in others. It was not known that a consumptive frequently expectorated several million tubercle bacilli daily, and that a single germ in a favorable subject produced a like trouble. No properly informed physician permits a patient to leave his office without minute details of distribution of sputum.

There are consumptives in Asheville who have no medical advisers, but I am prepared to inform this Society that within sixty days we will have a street expectoration law, which, I trust, will be rigidly enforced. This atmosphere is laden with ozone, and we have an abundance of sunshine which is deadly to all germ life, but we do not care to be contaminated in the slightest degree, when it can be so easily prevented. We keep our patients in the open air most of the day, some walking, some riding horseback or driving, and others bathing in the sun upon the verandas, according to physical and financial circumstances. During the absence of patients, rooms are thoroughly cleansed and renovated, allowing the sunlight to have full access, so that on return of occupants, there is a nice, sweet, clean aroma as though the atmosphere had been washed, which lends health with each inhalation.

There are numerous points about the prevention of tuberculosis, as, registration, isolation etc., which are not discussed in this paper; however, there is one more fact I wish to mention; namely, tubercular mothers should never be allowed to nurse their offspring, and a second pregnancy should never be permitted.

As for medication by the stomach, Morsons pure beechwood creosote is all that I have found of advantage. Patients are frequently given 60 to 90 gtts. daily, for weeks without any gastric disturbance, with marked improvement of the physical signs, and diminution of the bacilli. Gudes peptomangan

is of much service in keeping the stomach braced up, and the red blood up to par. No medicine should be given, that will, in any way interfere with the digestion or assimilation of food, for this is one disease that has its origin in mal-assimilation.

Intra-pulmonary medication is the commonsense, practical, and successful way to treat pulmonary phthisis. If a patient had a sore on his heel or in the palm of his hand, and the physician, on examining him carefully, prescribes an enema, and medicine by the mouth, giving the sore no local attention, in all probably there would be a change of medical advisers. You not only get a local, but a constitutional effect more quickly, with medicine administered by inhalation, than an any other way, sub-cutaneous injections not excepted.

Nitrous oxide gas, chloroform, and ether, are so quickly absorbed by the mucous membrane of the respiratory tract, that a constitutional effect is produced in a short time. The inhalation of poisonous vapors for a very brief period, and which cannot be detected, even by the sense of smell, frequently causes disease and death.

Menthol, terebene, oil pine needles, oil eucalyptus, and creosote, can be given, in glymol or glycerine, by inhalation, in far larger quantities than the average physician would imagine. In daily treatments a patient should have about 5 gr. menthol, 20 gtts. terebene, 20 gtts. oil pine needles, 20 gtts. eucalyptus, and 12 to 20 gtts. of Morsons pure beechwood creosote in ½ oz., glymol orglycerine. The reason for giving these drugs in glymol or glycerine is, that of either of these vehicles dissolves the sputum in the bronchial tubes and air cells, and allows these most powerful of germicides to exert their deadly work upon the tubercle bacilli in their very home.

If there be encysted tubercular spots that cannot be reached by inhalation, these medicines are left in closer proximity to the diseased tissues than if placed in the stomach, to reach the part by the circulation, after its various changes, by the contents of that organ.

A DE-VIL-BISS spray and a condensed air apparatus of three to four atmospheres is all that is necessary for this work. Be careful to have the patient's lungs emptied, and have him take a slow, deep inhalation as you administer the treatment.

Some patients will receive twice the amount of drugs, whilst others will not take so much. Frequently menthol has to be dropped from the treatment because of idiosyncrasy of patient, and the same is occasionally true of eucalyptus.

Hæmoptysis is controlled by small hypodermics of morphine and atropia with rest in the recumbent posture. Ice bags can be applied, frequently to advantage. Ergot is positively contra-indicated in these cases. Weak hearts must be looked after with nitrate of strychnine, or brandy.

Fever soon subsides with the intra-pulmonary medications in cases that are not too far advanced to be helped or cured.

To patients who have ulcerative tubercular laryngitis or pharyngitis, a local application is made at bed hour, of iodoform in glymol with a century atomizer, besides the daily intra-pulmonary medication. Under this treatment, most frequently the ulceration heals, inflammation or congestion subsides, and the voice returns, where there has not been too much destruction of the vocal chords. My observation with the curete and lactic acid treatment in these cases has been unfavorable.

For the past fourteen years the majority of my time has been devoted to the treatment of tuberculosis. A careful record has been kept of 617 cases during the last nine years, including all the physical signs, temperature, pulse, respiration, chest expansion, weight, and condition of sputum.

Many of this number have drifted from under my observation, but I am still in touch with the majority. Will just add, that no record has been kept in advanced cases that showed no improvement within thirty to sixty days, as they were all advised to return home to be with their friends and have home comforts.

In reporting the following cases, will note condition of patients when they came under my care, and the date they left Asheville, or at present.

Walter S. age 22, consulted me October 1886. Normal weight 176, present weight 132, family history bad, night sweats, shortness of breath, cough and slight expectoration in the morning. Had several hemorrhages. Pulse 96, temp. $100\frac{3}{5}$. resp. 24. Tubercle bacilli present. Physical examination of chest revealed consolidation of each apex, being more marked on the right with dullness, retarded respiratory murmur and moist rales, chest expansion $2\frac{1}{4}$ in. May 1, 1888, this patient left for Jersey City weighing 181 lbs., chest expansion $3\frac{1}{2}$ in., and with all the physical signs of disease absent, and the bacilli gone from the sputum. This young man is now in Jersey City conducting an insurance business, and tells me he has had no return of his old trouble.

Has now been back in the climate where he contracted the trouble, for the past eight years, and, in my judgment, is in constant danger of a recurrence of tuberculosis, notwithstanding his apparent good health.

Mr. H. of Pittsburg, age 28. Consulted me January 1, 1886. Much emaciated, shortness of breath, cough, night sweats with septic chills which he thought were malaria. Pulse 108, temp. 101, resp. 28. Physical examination of chest revealed small cavity at apex of left lung. Chest expansion was $2\frac{1}{4}$ in. Bacilli present. This man is still in this section, at the head of a very large enterprise and seems to be entirely recovered. Very little expectoration, temp. pulse and resp. normal. Chest expansion $3\frac{3}{4}$ in. There is a cicatrix in apex of left lung where a cavity once existed. Weighs 47

pounds more than when he came to Asheville ten years ago. Gave him about sixty treatments before temperature was normal. He only consults me now once in four to six months.

Mr. C. of Syracuse, N. Y., age 40. First consulted me summer of 1892. Family history bad. Hemorrhages for past two years. Shortness of breath with paroxysms of coughing and thick heavy expectoration. Pulse 92, temp. 99⅗, resp. 26. Examination of lungs revealed cavity in apex of right lung and consolidation of apex of left. This patient has been free of fever for the past two years, very little cough, and the bacilli have disappeared from the sputum. Physical examination of lungs reveals left apex entirely clear, with cavity dry in right. Chest expansion has improved 1¼ in. Gained 27 pounds in weight. This man took 263 intra-pulmonary medications. He now seems well and in Asheville lending money and clipping coupons.

Mrs. T. of Brooklyn, age 35. Consulted me January 1887. Mother, father and two older sisters died of phthisis pulmonalis. Examination of lungs revealed cavity in apex of right lung with consolidated spots to base. Constant acceleration of pulse. Elevation of temperature with quick breathing. Sputum full of tubercle bacilli, pus, blood, and lung tissue. Night sweats with great prostration and loss of flesh. December 1890—Physical examination showed that cavity had healed and consolidated spots cleared up. For the past four years no bacilli have been found in the sputum. Patient spent the past winter in Brooklyn and writes me she is well.

Mr. P. of Philadelphia, age 19. Consulted me February 12, 1895. Family history without tubercular taint. Had grippe ten months previous, since which time had hemorrhages, gradually losing flesh. Night sweats, cough, and expectoration in the mornings. Great prostration and shortness of breath on the least exertion. Loss of voice for past three months, amounting to a hoarse whisper. So much soreness of throat that only liquids had been attempted in the way of nourishment for quite a while. Weight 112 pounds. Pulse 132, temp. 193, resp. 28. Physical examination revealed chest expansion to be 2 inches, cavity in apex of right lung, and slight infiltration of apex of left, as indicated by dullness on percussion and retarded respiratory murmur on auscultation, tubercular laryngitis present, with quite a portion of the pharynx involved. Prognosis in this case was unfavorable, and the young man remained in Asheville, under my care, at the earnest solicitation of his father; with the distinct understanding on my part, that it would be advisable to take him home, should he not improve within thirty to sixty days. This patient received daily intra-pulmonary medication, and in addition, the local application of iodoform in glymol at night, to ulcerated larynx. Tablespoon doses of Gude's peptomangan were administered every four hours, with 15 gtts. of creosote three times daily. Rigid instructions were given about diet, and patient kept out of doors, with all advice about avoid-

ing dust, and inflating lungs to the very bottom of the air cells, to their fullest capacity, many times daily. At the expiration of three months Mr. P's throat had healed, and he could eat anything without pain. His voice much stronger, but had not regained its normal volume, nor ever will. Night sweats disappeared after two weeks treatment, and temperature had become practically normal in eight weeks. Pulse still about 100. Resp. 24. Examination of lungs reveals left apex about clear, with a marked tendency to a drying up of old pus cavity in apex of right. Chest expansion 2¼ inches: Weight 124 pounds. A microscopical examination of sputum showed a much improved condition. This man is still in Asheville, and to-day weighs 143 pounds, with a normal pulse and temperature. Resp. 22. None of the old symptoms, except a voice that has not more than half its normal volume; a cicatrix in apex of right lung which has practically ceased to secrete pus. For the past several months not a bacillus has been found. I regard this man cured, so long as he remains in Asheville.

Mrs. H. of New York, widow, age 24. Came under my care May 20, 1895. Shortness of breath, expectoration, night sweats, great weakness and emaciation. Pulse 112, temp. 102, resp. 26, weight 81 pounds. Examination of lungs revealed chest expansion 1⅞ in. Dullness over entire right lung with a cavity in apex, left normal. This case had a history of pneumonia, following grippe several months previous. Examination of sputum revealed tubercle bacilli, blood, pus, and lung tissue. This patient received the intra-pulmonary medication, creosote and peptomangan, with the usual instructions as to diet and hygiene, with the satisfaction of an amelioration of the above symptoms. She left for New York the 3rd inst , seemingly as well as any one, weighing 128 pounds. All the old inflammatory trouble had subsided and cavity seemingly healed. No bacilli had been observed for the last three months. My advice to Mrs. H. is to make Asheville her winter home for several years at least, which she proposes to do.

Mr. H., of Indianapolis, age 28, school teacher. Came under my care July 15, 1895. Pulse 108, temp. 101⅘, resp. 29, constant cough, night sweats, and septic chills. Examination of lungs revealed cavity in apex of left, with consolidation of back portion of lower lobe. Tubercle bacilli present. Mr. H. was placed on the usual treatment with an improvement from the start. His temperature and pulse were normal in sixty days. Expectoration had ceased in three months, since which time he has not been able to obtain a sample for examination. He left for home March 1st, apparently in perfect health, weighing 34 pounds more than he did last July, and with a gain in chest expansion of 1¾ inches.

I have a case book for each year in which cases are continued from one year to another, in ledger form. In these books can be found scores of cases similar to the above quoted.

It is now an accepted fact that early cases of phthisis can be cured, and that many in the second stage can be arrested, and, under favorable climatic influences, may live out the years of a comparative old age.

Forty-six patients, May 1st, were carrying in this place, 747 pounds more flesh than they had first of last October. An average gain of more than 16 pounds. Greatest gain of the forty-six was 41 pounds, the least, 2¼ pounds. Combined gain in chest expansion 41½ in: An average of a little more than ⅞ of an inch. Greatest gain 2⅜ in., least ⅛ of an inch.

In conclusion, I wish to say, that when the disease is arrested or cured, patients should never return to the same place, or to similar climate where the trouble was contracted or developed, as such persons are doubly susceptible to a recurrence of the disease.

Families of a tubercular predisposition locate here, and it is the exception when a case of consumption is developed.

The observing, scientific, medical world has its eye upon this section and are daily sending such people here with satisfactory results.

DISCUSSION.

Dr. Frank Duffy said: I would like to ask Dr. Burroughs what he thinks as to the propriety of confining patients in the earliest stages of phthisis. I have sometimes seen patients at the beginning with a very slight temperature, and have allowed them to go about. I have had some experience which seemed to indicate that it is better to confine patients and keep them quiet. I would like to ask him what has been his experience and what is his opinion as to the propriety of confining to bed a patient who has a temperature of 99½ in the afternoon, in whom we can detect the signs of phthisis. With even the slightest physical signs may we have reason to expect incipient phthisis, and must we allow them to go about or remain in bed?

Dr. Burroughs: I do not keep my patients in bed in cases of incipient phthisis. The doctor remarked that one of the earliest symptoms we have is slight rising temperature. You may not be able to detect any physical changes. I have as treatment a course of ordinary gymnastics. I have them take buggy rides, and keep them out of doors. If they have high temperature in the more advanced stages I put them in bed a few days.

Dr. Duffy: In regard to the contagion. Is is accepted that it is propagated most generally through the expectoration? I am often asked the question whether a person should sleep in the same bed with one who has the disease. I have had cases reported to me in which persons have been in close contact and certainly have not contracted phthisis. Where there are two persons breathing the same atmosphere, breathing the breath expired, is it very dangerous, or is contagion mainly from the expectoration? To what extent lower animals contract this disease, I do not know, but it is a curious fact there was a cat that followed a tubercular man about, and when he would cough the cat would run and eat the expectoration. The cat still lives, though the man has been dead about two years. The cat seems to be in good physical condition.

Dr. Burroughs: I do not think it is recognized as being contagious from the breath, but when a patient expectorates and the spital becomes dry it is taken up in the dust and is carried about in that way.

# CLINICAL NOTES ON GUAIACOL.

By H. A. Royster, A.B., M.D., Raleigh, N. C.

Guaiacol constitutes from 60 to 90 per cent. of beechwood creosote. It is said to occur as a colorless liquid, having a peculiar aromatic odor, and readily soluble in alcohol and ether (National Dispensatory, Hare, Cerna, Shoemaker). Von Heyden, however, states that "the liquid guaiacol itself is never a pure product, containing only 75 per cent. of pure guaiacol." The pure drug exists in the form of crystals, which are white and hard, melting at 83.30 F. and remaining in this state for an indefinite time (Gilbert and Morat). We find, then, that there are two varieties of guaiacol on the market —one a colorless liquid, the other a crystalline solid which deliquesces in our climate into a fluid of an amber color. I have used both forms, but obtained decidedly better results with the last named preparation.

During the past year and a half I have had occasion to employ guaiacol in the treatment of various affections. It may be of some interest to give the results of my experience, based, as it is, upon records kept at the bed side. My usual method for internal administration was to give 2 to 10 drops of the amber-colored fluid (deliquesced crystals), according to the age of the patient, in half-a-glassful of water at the intervals appropriate for the case. It is sparingly soluble in water (one in 85 parts, according to Helbing) but the few drops are suspended in the water sufficiently long for the patient to swallow. Given in the manner described, its diuretic action is remarkable, whether due to the necessary amount of water ingested or to the specific action of the guaiacol, I cannot say. After a patient has been taking it for some days, its peculiar odor may be detected in the urine. It is also eliminated freely by the lungs and skin. The taste is at first somewhat disagreeable, but one quickly becomes accustomed to it. With the exception of a limited use of the carbonate, I have had no experience with the salts of guaiacol.

The first practical knowledge I had of guaiacol was its use, at the beginning of my hospital service, in the *diarrhœal disease of children.* The good results secured at that time, I have since confirmed over and over again. The marked influence guaiacol exerts over intestinal disorders is owing, probably, to its antiseptic properties. In children it seems to control diarrhœas wonderfully, not only diminishing the member of stools but relieving pain and reducing temperature. I have used it in several cases of enterocolitis, in doses of from one to three drops every three or four hours, always with a favorable influence, many times with perfect success. Children bear large doses proportionately well and rarely object to its administration after the method which I have followed. The ordinary diarrhœal affections

of adults do not seem to yield so readily to the remedy; its action is neither so prompt nor permanent. For the relief of *flatulence*, guaiacol in small doses is very efficient.

In *typhoid fever* guaiacol has been extensively employed. I saw a large number of hospital cases recover under its administration. During six months of private practice, I have used it in four cases, all recovering. It gave entire satisfaction and, I believe, is the treatment *parexcellence*, where, for some reason, the Brand method of bathing cannot be carried out in detail. But, I am not a blind believer in statistics. No treatment will be uniformly successful, for the fact that a man has typhoid fever does not render him immortal, or even nearly so. Sketches of my own cases will be given for what they are worth.

*Case 1.* was that of a young man, aged 22, who gave a typical history and who had all the classical symptoms of typhoid, except the diarrhœa. Saline purges were prescribed at suitable times in connection with the guaiacol, which was administered in three or four drop doses in water every three hours. At the end of seven days, the temperature was reduced from $102\frac{4}{5}$°F. to within the normal, without the slightest return of fever, although the typhoid rash which appeared on the day after I began the guaiacol, was still present. Normal temperature with blooming rose-spots is, at least, unusual. This phenomenon in the case would justify a belief that it was aborted; for, counting back from the first appearance of the eruption, we cannot say that the fever had existed more than from seven to nine days and this would make the total time of the fever's course only two weeks. During the third week the patient was convalescent and, at the end of this period, stiting up. The effects of guaiacol on this patient's general system were very favorable. His tongue was kept clean, the skin was always moist and the kidneys excreted abundantly.

*Cases 2 and* 3. were both in children—a boy 3 years old and a girl of 7, brother and sister, the former being attacked five days after the latter had fully recovered. I will also mention the fact that the girl had been sleeping on a cot upon which an older brother had died of typhoid fever two months before. Both of these children came under my care early in the disease. The symptoms were well marked—epistaxis, diarrhœa, stupor, tenderness in right iliac fossa, etc., in both cases, with rose spots in the girl's case, not in the boy's. Examination of the blood in both cases gave negative results. In the case of the elder child, the temperature, which remained for the first four days above $103\frac{1}{5}$° was reduced steadily to normal under six days' treatment with guaiacol, though on the next day a slight recrudescence (reaching as high as $101\frac{1}{2}$°F.) intervened until it was again normal in twelve more days, after which the patient quickly recovered. In the younger child's case the temperature fell to nor-

mal from 102½°F. (axilla) in ten days and never returned. In each case I began with one drop of guaiacol every three hours, increasing rapidly up to three drops, which dose was maintained as long as the fever lasted and gradually reduced as convalescence was established. The general effects of guaiacol in these cases were equally as favorable as in the first one reported. I am prepared to confirm the statements of those authorities who have found guaiacol of especial value in the treatment of typhoid fever in children.

*Case 4.* A colored woman, 30 years of age, admitted to my service at the Rex hospital last October. The history was unsatisfactory and the symptoms not distinctive, though I diagnosticated the case clinically as one of typhoid fever. She had a stuporous appearance; her tongue was dry and tremulous; the spleen was enlarged; her temperature soon after admission was 104⅕° and her pulse 80. The influence of guaiacol in this case was not decided. Though given in large doses, five drops every three hours being the maximum, it did not control the fever, as in the other cases. The cause of the temperature was undoubtedly modified, but its fluctuations were irregular and the patient was not entirely rid of fever until the 24th day of the disease. Sponge baths were given as an aid to the treatment. The usual effects of the guaiacol were manifest, however, and the patient's condition was never at any time regarded as being critical. This case is a representative of a large number in which guaiacol acts favorably as an intestinal antiseptic and a mild antiseptic and a mild antipyretic, without cutting short the duration of the disease. I have never seen a single instance of the depressant or toxic effects of guaiacol.

In several cases of malarial fever and in some of those obscure fevers of doubtful origin, I have applied guaiacol *externally for the reduction of temperature.* My plan has been to paint twelve to fifteen drops on the abdomen by means of a camel's hair brush, to rub it in well and then to cover the part with oil-silk. In one case, I noted particularly that the temperature was reduced from 102⅖°F. to 99⅖°F. in a half hour, without depression and accompanied by not half so much sweating as five grains of phenacetin produced in the same patient.

As a remedy in tubercular affections guaiacol is universally pre-eminent. It was in this relation that Sahli first proposed guaiacol as a substitute for creosote. Jacobi, of New York, highly recommends it in the tubercular diseases of children. I gave it a systematic trial in two cases of *intestinal tuberculosis*, one being a 12 year-old white boy, the other a colored boy of 17 years. Of course, in both cases the drug was simply palliative, but its control of the diarrhœa and the relief of the abdominal pains, so often present in the later stages of the disease, were noticeable. The patients were rendered, comfortable and, I believe, their lives prolonged by the use guaiacol. The dose was two to four drops three or four times a day.

As a *local application to the throat* in tonsillitis and pharyngitis, guaiacol is decidedly of service. I have usually combined it with equal parts of glycerin and painted it on with a long-handled brush. I recall one case in which this combination applied every three hours apparently aborted a "quinsy," while a similar attack in the same patient two years previous had progressed to suppuration and rupture.

About a month ago I treated a case of *epididymitis* with an ointment of guaiacol (20 grains to an ounce of lanolin), rubbing it in thoroughly three or four times daily and enveloping the organ in a piece of rubber tissue, the patient being confined to bed. It did very little toward diminishing the severe pain, though it reduced both the local and general temperature, and seemed to check the inflammatory process. It showed, however, some tendency to irritate the skin.

DISCUSSION.

Dr. Gwathmey:—I can confirm from observation Dr. Royster's paper. In fact I used guaiacol extensively two or three winters ago, making local applications in all cases of typhoid fever for one winter. It certainly has the antipyretic effect he has attributed to it. In cases of phthisis and fever where the bath treatment cannot conveniently be used it brings down the temperature and renders the patient comfortable. It will give local relief and lessen the temperature.

Dr. Royster:—I have simply tried to set before you in a thorough concrete way all that I have done and seen and found in the use of guaiacol. I am prepared to confirm in return what Dr. Gwathmey has said of it in his experience in Philadelphia.

# A RARE SOURCE OF ERROR IN THE DIAGNOSIS OF INGUINAL HERNIA.

By E. G. Goodman, M.D., El Paso, N. C.

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It is not my purpose to entertain you with the details of any new operative procedure, or to promulgate any new theory; neither is it my desire to weary your patience at length with rehearsals of obsolete dogmas, nor with recitals of theories that are familiar as household words.

There is, perhaps, in the experience of nearly every practitioner some instance of mistaken diagnosis, due to the absence or obscurity of some important symptom; or to the presence of others so rarely met with as to escape recognition.

While uniformity is nature's rule, yet, this rule is far from being absolute. The congenital absence of some organ, the redundancy of others, and the transposition of viscera have all been fertile sources of error to confuse the unwary, and even to mislead the skilled diagnostician into the adoption of methods of treatment, alike injurious to the patient, and detrimental to his own professional reputation.

When the surgeon is called to examine a case of inguinal or scrotal tumor, there are various pathological conditions to be kept in mind—such as hernia, hydrocele, hæmatocele, varicocele, etc. These, as a rule, are readily differentiated; every one having its characteristic symptoms sufficiently distinctive to separate it from the rest.

It is not, however, to be presumed that the diagnosis is always easy in any given case, when we remember that eminent surgeons have committed the gross fallacy of tapping a hernia for a hydrocele. Such instances stand out as a warning against hasty conclusions, and unwarranted inferences; and teach the necessity of carefully weighing every possible source of error in every case.

If a case is presented of inguinal or scrotal swelling; perhaps, the first impression of the surgeon would be that he had to deal with a hernia. If he is told that the enlargement began above and travelled downward; if on examination it is found to become tense and to impart an impulse to the fingers, laid over the tumor when the patient coughs; if it readily disappears under pressure or when the patient assumes the recumbent posture, and is prevented from returning by pressure, but reappears on removal of pressure—in such a case the diagnosis of hernia would seem to be complete. Add to this the fact that, both testicles are normally situated in the scrotum, and it would seem that the last source of error had been eliminated; for Bryant lays down this rule: "If the surgeon would always be careful to examine for the

testicles in the scrotum, he would never fall into the error of mistaking an undescended testicle, or one lodged in the inguinal canal or at the internal ring, for a hernia or any other disease."

It is to prove an exception to the foregoing rule, that I wish to report the following case. The patient was a little boy about five years old. Over the right inguinal canal was an ovoid swelling which imparted an impulse to the applied fingers when the patient coughed.

On application of pressure the tumor was readily made to glide back into the abdominal cavity, and remained there so long as pressure was applied. On removal of pressure the enlargement resumed it former proportion. Both testicles were in the scrotum. The diagnosis was oblique inguinal hernia. As a palliative measure I applied a truss; and on account of the tender age of the patient, I entertained some hope of a permanent cure. On revisiting my patient I was informed that the truss could not be worn. It caused such pain and other evidence of inflammation as to render its use unbearable. On examination it was found that the tumor was much increased in size; had extended through the external ring, and was irreducible. Further examination revealed the fact that, the supposed hernia was nothing other than a third testicle, tardy in its descent, and by gliding into and out of the inginual canal accurately simulated a hernia.

During the movements of the child it was caught under the pad of the truss and forced through the external ring; and, becoming swollen from the injurious pressure could no longer be made to enter the canal. Its deceptive appearance ceased as soon as it passed the external ring; where, being surrounded by the loose scrotal tissues, it could be easily manipulated and its true nature ascertained.

The truss, of course, was no longer necessary, unless a hernia later on follows the testicle, which would seem likely to occur if the vaginal tubular process of peritoneum has not been obliterated by inflammatory adhesion of its walls.

# INFLUENZA.

By G. T. Sikes, M.D., Grissom, N. C.

Influenza, or la grippe as more commonly called, is an influence that was formerly thought to be due to the stars; but more recently defined as a specific contagious epidemic affection, characterized by a catarrhal inflammation of the mucous membrane of the respiratory tract, accompanied by a mild purulent discharge, fever and prostration.

This disease is by no means of recent origin or sectional habitat. It has the custom of manifesting itself by epidemics, which have occurred now and again since early in the sixteenth century. Parks traces epidemics back as early as the ninth century and it is highly probable that even prior to this some nook of earth was not entirely a stranger to its dreadful influences.

It seems to be at distinct intervals that it visits certain sections and an epidemic lasts from two to four years and may in that time attack the entire habitable globe, but again it has been known to visit the whole of Europe in six weeks, and again a month has been consumed in the spread of the epidemic from London to Edinburg, a distance of about three hundred miles. Bartholow says: "As it prevails under all conditions of soil and climate and is not contagious there must be present some morbific influence in the atmosphere."

And this, it seems would best explain the spontaneous epidemics that occur, but just what this morbific influence is I am not prepared to say, but it would seem quite reasonable to admit that it is a minute organism, and by so doing we would not wound the scientific deductions of our germ theorists. During the different epidemics it has been observed that various kinds of fungi flourished in unusual abundance. If it should be classed among the contagious diseases special mention should be made of the fact that there is no regular period of incubation, for attacks occur immediately on exposure in one case and in another it takes days to develop. But it makes no difference how sudden or how long a case may be developing or how severe it may be in type it is no protection against another attack. By reference to Dr. David Ramsey's Historical Works we learn that this unenviable visitor first introduced itself to the United States in the year A.D. seventeen (1789) hundred and eighty nine and at that time traversed the whole country and was attended by the Death Angel who dispatched his work with precision in certain places, and especially among the slaves of South Carolina, culminating on the plantation of one Wm. Alston who was left minus of thirty-five adults of this class.

The pathology in this attack was extended to the entire mucous membrane of all the frontal passages, and was attended with deafness, loss of taste and smell for a long time.

The second great attack came eighteen years later, in 1807, in which visitation it spared neither age nor sex but many children escaped with little or no inconvenience, but the reverse was the case with the aged. This attack was so universal that it was difficult to find a sufficient number of persons in health to attend the sick, and in a few weeks it is supposed that half the population of Charleston had been afflicted with the disease. Nor was it confined to the fourteen thousand cases in the city, but spread to the entire surrounding country, but with a much smaller death rate than the previous attack had.

The medical treatment during these attacks was, it seems, in keeping with customs most popular at the time and was chiefly such as bleeding, blistering, emetics, cathartics and sudorifics.

In the early visitations of influenza it resembled yellow fever in commencement, with pain in and over the eyes and red streaks over their whites. A sharp acid secretion was discharged from the nostrils. In such cases a hoarseness and soreness of the throat was usual, a tightness and a stricture across the breast with a dry cough, was common. In the aged the disease assumed the form of pneumonia, in the young and plethoric that of a pleurisy. Persons of a consumptive diathesis or who had been subject to old coughs or diseases of the chest suffered most and oftenest relapsed; spitting of blood and other precursors of consumption attacked such patients after the disease had in their cases apparently vanished and generally disappeared. An uncommon increase of consumption followed in the year 1808 which exceeded any thing ever before known in the path of the attack.

There seems to have been other visitations from time to time but perhaps not so universal nor so serious as the one that presented its compliments to such a vast area of country, in the years '90, '91 more or less since. The symptoms of our seige did not differ much from those of the early part of this century, except that we were usually warned of the approaching attack by incessant sneezing, with chilly feelings up and down the spine followed by headache and slight cough which comes by paroxysms and is especially troublesome at night, no expectoration, a general sore feeling, slight constipation and marked soreness over the abdomen, eyes and nose discharge freely; the temperature reaches about 100 or more and it continues for a few days and the sthenic cases recover, but the less fortunate grow more despondent with weak pulse, increased respiration, bronchial rales over the lower part of one or both lungs posteriorly, tongue tremulous, flabby and coated; oftentimes the patient will lack some of these special symptoms and will seem to suffer more from a giddiness or dizziness with profuse perspiration, a general soreness and pain in the bones, sick stomach and marked debility. There seems to be one peculiarity of this disease that is, that with a given amount of disturbance there seems to be a more complete relaxation of the

entire nervous system than with perhaps any thing in the range of our acquaintance. But as there is not apt to be much trouble in making a diagnosis of this disease it is of vastly more importance to be able to arrive at something like a definite prognosis with a certain amount of assurance that with prudence the case need not prove fatal, but it requires much caution on this point and especially in old age, and feeble hearts and cases that already have a predisposition to consumption. The treatment of a disease that seems to affect so nearly the whole human anatomy and cover so much of the earth's surface has engaged alike the professional skill of the sage, critic and crank, but there seems to be as much diversity of opinion in this as any other disease, yet many practitioners have alike been quite successful in the treatment, although their mode was quite different. It is en evident truth that the treatment of any disease requires the skillful eye of the physician to discern with telescopic precision the approach of any evil change that might be warded off; and in warding against such attacks it will require a digression from the regular marked channel, and it would be difficult to imagine a body with more runners in search of new channels than the one under consideration; so in part that will apologise for the width of the channel in our opinions and experiences. One finds relief from his great confidence and perseverance with quinine and opium, which I do not question as to their virtues, another relies chiefly or entirely on antikamnia, which I am sure has a just right to our mention and also trial as an anodyne; another has confidence in whiskey, which I do not think deserves to be mentioned among the remedies, and another has his own favorite prescription which I do not wish to under value for I also have a favorite which after a varied experience has nearer met the common, the uncommon, and intermediate demands of the disease than anything else I have tried viz.

℞—Bromide Pot. and Chlorate Pot. . . aa gr. ijss.
Paregoric and Sweet Spts of Nitre. . aa ♏ ijss.
Simple syrup . . . . . ʒ ij.

Sig. every hour or two according to the severity of the case and susceptibility of the patient; with a turpentine stupe over the irritated part or parts of the chest. This would be entitled to the term of "*sine qua non*" in the treatment of this gigantic enemy of mankind with me. But I would not dare ask this scientific body to adopt my opinion in the great battle for life, health and wealth against an enemy that cost Great Britain in the year 1889 the enormous sum of $10,000,000, one half of which was paid by insurance companies and the other half caused in the loss of wages, and if to this we add the vast sum of human energy that it has destroyed, and the check that it everywhere put on the wheels of human industry, and the wrecked constitutions that are left behind without any hope for restitution it aggregates an amount beyond computation and incomprehensible.

DISCUSSION.

Dr. Kent:—I have listened with much pleasure and interest to the paper just read, and it brought to my mind the fact of the great diversity of types in influenza. Among the types I have seen was one that the doctor failed to mention, or at least a set of symptoms he failed to mention that were of special interest to me in a case of influenza—that is the nervous symptoms resulting in convulsions and coma. In four cases I had protracted coma, a convulsion first, and then settling down into coma. One of these cases of coma lasted about five hours. Another case first had convulsion, then settled down into coma which lasted eighteen hours. A third case the child first had a convulsion, and then coma which lasted twenty-six hours. In one case in which I was in consultation with a fellow physician, we were in doubt as to whether we did not have meningitis, the coma was so prolonged. It lasted four days, but during that time there was a lack of rigidity of muscles, and we were of the opinion that it was nothing but a case of influenza with this protracted coma after convulsions. I cannot give the treatment I pursued in any of these cases. They differed in every respect except they had coma, and I treated for that. These cases made nice recoveries.

Dr. Sikes:—I do not remember myself to have seen a case that went into a genuine condition of coma, but I have noticed over and over again the very great amount of nervous excitement there is in this trouble. Perhaps there is more nervous disorder for a given amount of apparent disease than in anything else that I can call to my mind at present. A word in regard to the treatment. I do not think anybody could map out definite and positive laws for the treatment of this disease from the simple fact that there is such a difference in the different cases. In treating an epidemic of influenza—all of you have observed it, for it has visited every part of the State—we would hardly find any two cases that were alike. We find different cases with a good many different symptoms, and a good many cases with the same symptoms, but strictly speaking it is hard to find any two that are identical, and of course we have to adopt the treatment to the case; and I know of no better treatment than the one I spoke of in the paper.

# THE VALUE OF RECENT THERAPEUTIC LITERATURE.

By J. C. Montgomery, M.D., Charlotte, N. C.

The assertion of the progress in science of this century is not needed, and a year ago it would seemed trite enough to have exalted its achievements. But now, within a few years of the new century, and all within the space of a few months, developments and discoveries, few in number, but of importance enough to fairly overthrow all our ideas of the limitations of man's power, have been thrust upon us. As the proud nineteenth century draws to a close, it would seem that its representatives have good reason to be proud of the legacy to be left by them to succeeding ages. It is only necessary to go back a few years to see that in medicine, as in every other field of scientific research, the advancement has been great. Medicine shares with art poetry, philosophy, and fiction, and to the painstaking, careful investigator, who has the gift of imparting to others that which he himself possesses, is due the noble stand which medicine has taken in this active century. All literature is but recorded thought or knowledge. It is by the study of our literature that we expect to profit; upon our library shelves are stored the best thought of the most brilliant minds from every civilized nation under the sun, and to these works of nature we ever turn that we may benefit and confirm or reject a pet impression made upon our mind by perhaps limited experience. As a mine of gold ready to be developed is the unopened cover of many a medical classic. We may classify our literature into a special and general class. There is a tendency to specialism in medicine itself, so in its literature there has been a necessary classification and everywhere the endeavor has been made to give that which is richest and best all grades of student life. Anatomy can be satisfactorily studied because the eye and touch convey to the mind the truthfulness of the teachings of its literature. So with chemistry, physics, physiology, and to a large degree pathology and histology. It is when we approach those studies in which theory to a great degree forms its literature that our investigations and reading become unsatisfactory. General medical practice itself presents little difficulty until we pass to the application of knowledge to the relief and cure of the patient. This the supreme desire of medical study, becomes with the learned the most unsatisfactory and unreliable of all. Beginning with the fundamental studies of anatomy and physiology, all through medical life the never ending stream of thought pours through its literature a flood of knowledge, ever tending to increase the doctor's influence. Most voluminous of all is the literature of our therapeutics, and it is certain that nowhere is there more unsatisfactory study than in the attempt to reconcile the results of active practice with the reports made by those whom we consider authority. The experience of the practitioner is mainly so disappointing that all statements

as to the results of treatment are received with suspicion, and it is only when the united testimony of many experiences gives unvarying results that we are able to use with confidence any line of therapeutic procedure. The therapeutic literature of the past was neither voluminous or definite; that of the present is extraordinarily voluminous and perplexingly indefinite. The faith of the fathers has been supplanted by the uncertainty of the present generation. We are accustomed to pride ourselves that in the great work of prolonging life we have been successful beyond all that has gone before, and he who reads believes that we have learned to so combat sickness and death as to add much to the probable length of human life. Analyzing the totality of statements, do we really find that the giving of medicines to the sick has been greatly more successful than was the medication of fifty years ago? Does therapeutic literature teach that more has been done with drugs than formerly? Does it not prove that the fear of overdoing has been more potent than the doing? In other words, has not the modern therapist learned from the enormous volume of his literature that uncertainty of action is more fully established than precision? The great number of remedies proposed by writers shows the unsatisfactory result of experience in the use of the old ones. Do not understand me as saying that the study of years has not brought with it expected benefit or good to the world. I do say that medicine has advanced with wondrous strides, but only because we have learned how not to give medicines rather than how to give them. The advance has been made in the understanding of causes of disease with means of prevention, rather than in the ability to combat by medication pathological processes already established. The conducting of a case of pneumonia through all of its self-limited stages without active drug administration, shows a far greater medical acumen than does the recovery of the patient in spite of heroic dosage. No greater advance was ever made in medicine than when it was shown that disease is in most cases self-limited, and that nature, with powers vastly more reliable and powerful than we can substitute, generally tends to cure. The value of recent medical literature can only be determined in two ways: First the author must be known as a skillful practitioner, and secondly his writings must bear the impress of truthfulness, learning and common sense. Novelty never inspires faith. It is to the old tried remedies that we turn in an emergency. The report of the treatment of one case is valueless unless by similar cases the same result is observed many times repeated. Many persons ill, recover in spite of the remedies, not by reason of their administration. There are some of us who seem to revel in the use of all new drugs, and are only happy when experimenting with recent additions to our altogether too long a list of remedies. There are others who refuse to even study anything novel, preferring to cling to tradition rather than literature. Much of our recent literature is the result of

observation too limited in time or extent. The result of administered medicines is often published before the full action or effect is noticeable. The writings of many of our best clinicians bear the impress of truthfulness and learning. When found in lectures to their college classes or in articles read before medical societies, they more often carry weight, because rarely do such authors reason from insufficient data. But the writings of hundreds of essayists as produced in our medical journals either carry no weight or are positively instrumental in unsettling in the minds of some facts which seem already firmly established. Let common sense control your mind, so that in your reading your impulse will be to accept only that which reason tells is true and wise and sensible. That literature which teaches that remedies are but nature's assistants will live, but that which spreads theories opposed to nature's laws must pass away and moulder and decay. The value of our recent therapeutic literature depends entirely upon the matter presented and the character of the writer. Preconceived ideas must not be proven by misstatements or perversion of facts. Theories of themselves are worthless, and can only give zest to speculation. One fact proven is worth any number of theoretical vaporings and the literature of the present as well as of the future, to be worthy the honored class it seeks to represent, must be shorne of all that springs from ignorance, egotism, falsehood, fashion and avarice.

# THE CHRONOMETRY OF LIFE.

By Dr. W. P. Ivey, Lenoir, N. C.

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If I were called upon this evening to address an audience of *medical* men alone, the selection of my subject would not be a difficult matter. But I am reminded that there are others in my audience and that I must play to the gallery. I must sing a medley, I must present to your intellectual view a composite picture, I must offer what is known in medical parlance as a shot-gun prescription. How difficult my task some of you by experience know and I hope all will appreciate.

Life is a subtle, intangible indefinable something that characterises animate creation. Poets in beautiful language and imagery have described it and philosophers with profound reasoning have attempted its definition, but all such have been unsatisfactory and to day with the accumulated learning of the ages and with millions of examples of all kinds of life constantly around us we have no better definition than that furnished by aristotle centuries ago, to wit; "Life, the faculties of self nourishment, self growth and self decay." The properties of life may be spoken of as three: first, composition, its embodiment being composed mainly of carbon, oxygen, hydrogen and nitrogen united together in a peculiar compound called protein, which is found no where else except in living things. Its second property is that of waste and repair or change, the taking in of new material to replace that, which is worn out and no longer fit for use. Every thing that has life is undergoing constant, perpetual change. To-day we are not what we were yesterday, next week the amount of change will be much more and in the process of time every particle of our body will have been renewed. It is very easy in the light of these facts to comprehend

> "How the same organs, which to-day compose
> The poisonous henbane or the fragrant rose,
> May with to-morrow's sun new forms compile,
> Frown in the hero, in the beauty smile."

The third property of life and the one which forms the basis of what we shall have to say is its tendency of undergoing cyclical changes.

All life of course is conditioned upon moisture and temperature and is dependent upon the same chemical and physical forces, which are active in the rest of the world, but, outside of this, there is in life a certain time rate running through it, which is as fixed and definite and certain as is stature or weight or lineament. We no more expect a man to live a thousand years than we expect him to grow to the height of our tallest trees. We just as confidently look for babies to begin to cut teeth at the age of six months as we look for our trees to bud and bloom in balmy spring. We as naturally expect puberty

to take place at the age of fourteen years as we expect the coming generation to be born with two eyes and one nose. All the processes of our organs are as much regulated by time as the materials that compose them are of a certain, definite structure. There is as certainly a chronometry in life as there is a chemistry or mechanics. This observance of time is a characteristic of life dependent upon properties inherent in the living bodies themselves and not on conditions external to them.

As examples of this element of time as affecting the processes of organic life we may mention the germination of seeds and the hatching of eggs. In plants and cold blooded animals, the time varies according to temperature, yet not without reference to a certain time rate, but in the hatching of eggs each species has a certain time for incubation, a certain amount of work to be done in a certain number of days and this time rate is determined not by a mathematical calculation based upon surrounding circumstances, but by a certain definite property existing in the egg itself. If the eggs of different species be subjected to exactly the same external conditions, just as sure as the bird hatched will be like its parent, just so sure will it be hatched in so many days. Every boy, who is familiar with bird's nests (and most of them are) knows this. Having found a certain kind of bird's nest and knowing the number of eggs deposited by that particular species before setting begins, he knows just when to go back to that nest to find young birds. We may just as naturally expect a hen egg to hatch out a jay bird or a robin as to expect it to hatch in less time than twenty days.

With this observance of time in the development of the young, we may see corresponding changes taking place in the parent. In the case of mammalia it is observed and known by every one, how preparations are made by nature in the parent for the nourishment of the offspring. But this is also true in the case of birds and especially in pigeons. As the process of hatching goes on there also progresses a development of the crops of the parents, secreting a fluid for the purpose of rendering the food of the young more suitable for their sustenance. The correspondence of these two time rates indicates a chronometry within, just as certainly as the faces of two clocks indicate that there is within a combination of wheels capable of keeping time.

A most interesting instance of this life chronometry is seen in the behavior of certain turtles. They prepare their nests in the sand, deposit their eggs in them and then go away and leave them to be hatched out by the sun. Exactly at the proper time when hatching process is going on they return to their nests for the sake of their young. Strange calculation of time. By what means do they do it? Just as certain organic processes impelled them to prepare and fill their nests at a certain time, just so some certain time regulated organic process impells them to return just at the proper time.

Many migrating animals and birds seem to have a power of reckoning time. This power has been said to depend upon external conditions, such as temperature, scarcity of food etc., but this is not the case, for a migrating bird when caged and not subject to the changed conditions and removed from all environments that might be supposed to induce or necessitate its departure, will show unmistakable evidences of its knowledge of times. It will become restless and uneasy as the time for migration approaches. This time rate is observed even when the seasons are changed. Birds that in their habitat breed in May, will when brought here breed in November. These birds and animals show the season of the year with as much accuracy as an almanac. There is a time rate in their life, which is a part of that life and they know when this time for migration comes as well as they know when they are hungry and at certain seasons of the year it is just as natural for them to take themselves away to another clime as it is for them to have two wings or two feet.

As there are variations in the number and size or organs and in all other properties of a species that go to make up its specific character, so there may be variations in the time rate of organic processes by which variability is indicated an essential dependence upon the properties of the organism itself. All the plants of a locality may be under the same conditions of soil and atmosphere yet each reaches the chief events of its life at different periods of the year. Among fruits and flowers even in the same species there may be early and late varieties. You may take two seeds of the same species, in which you can detect no difference whatever. You may plant them side by side using the same precautions in the planting and cultivation of each, yet there will be a difference of time in the ripening of each one's fruit. This difference is determined by a difference in the chronometry of life, inherent in the seed itself and not dependent upon any external condition of climate or care. An instance of complete likeness of seeds except their time rate is in the seed of the Begonia, which, if taken from the same pod, planted under the same conditions and cultivated with the same vigilance, some will germinate in a day, others in a year and others at various intermediate times. Another strange instance of this difference of time rate of the same species is seen in a species of moth called Eriogaster Lanestris. If pupæ formed in June or July be selected of the same size and appearance and subjected to the same climatic conditions, the greater number will develop into a perfectly formed insect in the February following, others in February of the next year, and others not until the same month of the third year. In this case this difference is a wise provision of nature for the preservation of the species. If all were developed at one time and the weather should happen to be unfavorable, all would be destroyed. As it is the species has three chances for life and perpetuity instead of one. Still another instance of a time

rate in insect life is in the case of the locust, which comes to certain localities at regular intervals. Whether this periodicity is a law of their life or whether the larvæ are hatched out after the lapse of an especial period of time is unknown and immaterial. The fact remains curious and interesting that in the locust we have a means of counting time by sevens, either seven years or a multiple of seven being the interval of time which elapses between its visits.

It is said that there grows upon the Alps in the regions of perpetual snow a beautiful flower called the eidelwiss. Strange indeed that a flower should grow at such an altitude and come right up through a bed of snow, but I can call your attention to a flower more remarkable than that. The night-blooming cereus, the most grandly flowering plant known, by a curious time rate all its own, blooms out into perfection only at night. I, and perhaps many of my audience have gotten up out of bed in the late hours of the night to behold its strange weird beauty ere it was hid before the approach of dawn.

"Sweet lillies close their eyes at night
And ope them with the morning light"

and the well known morning glory by a similar tendency sees fit to bloom out early in the morning just as the rising sun greets a waking world. As the lilly and the convolvulus by a phase of life mark the passage of a day, so also there is a plant which by its own peculiar time rate marks the passage of a hundred years. The century plant, a species of cactus is said to bloom only at the age of 100 years. It is kept and nurtured and watched with care on account of this feature of its life alone. I don't know what kind of flower it has, but I know that it can not be more startling in any of its physical properties than in the time of its appearance.

A very striking example of this time regulating principle inherent in life is seen in the formation of the teeth. Their eruption begins at a certain age and they come out in a regular manner. In form or structure there is nothing to be seen explanatory of why one should appear before another or why all should not appear at one and the same time and grow with equal speed. The contrast also between the first and second set is a marked example of this fitness of time. In all respects except size and strength they look alike and yet one requires as many years for formation as the other requires months. One set lasts but a few years, while the other ought to last a life time and often does. This departure of the first set and the advent of the second are also regulated by time, the first getting out of the way before the arrival of the second, the jaw bone at the same time developing and getting ready for their reception. This nicety of regulation and eternal fitness is by reason of an inherited principle existing in life itself. These things take place in this regular order, because they have been set to this rate and they know no other manner of proceedure. Our parents have set the pace and we follow in their footsteps.

The events of sleep and waking, the daily variations of pulse, respiration and temperature, the regular returns of hunger and thirst and the regulated times of digestion and assimilation are all instances of this time serving property of life. These changes are known to occur at certain times of the day, but are entirely independent of diurnal changes. We sleep at night not necessarily because it is night, but because we are constructed upon the principle, that so many hours of sleep must follow so many waking hours of activity. Nature is wouud up to run so many hours and then sleep must take place independent of light or darkness. We are so constructed that the waste of the day is made up by the repair of a night's sleep and rest. And just as with the replacement of structure and blood by the taking of food and drink. The processes of digestion and assimilation are timed so as to accord with the times of our daily taking of food.

The most minute observances of time in organic processes are seen in the rythmic action or organs, regular respirations and the rythmic actions of the heart. Every movement of respiration and every beat of the heart are followed by a period of rest, during which the impairment of composition is repaired and these periods are so nicely adjusted, that no time is lost, the time for rest being exactly what is necessary for the repair of waste by labor done. This chronometry is absolutely perfect and we know nothing of tired heart or tired respiration. Disturb this equilibrium and we at once know that something is wrong. If you want to do a harder day's work than you ever did in your life, just breathe very rapidly for the space of an hour.

A very interesting study is this time rate in the life of disease germs as studied in the diseases they cause. The vaccine disease may be taken as a type of these morbid poisons. No matter how it is introduced into the body, whether bred or inoculated, identically the same course is run and a definite time peculiar to itself is required for its development, growth and decline. The vesicle, which appears on the third day, passes through certain stages, which are as pronounced as to time, as the vesicles are in respect to physical appearance. The malarial germ in its life and behavior marks the passage of twenty-four or forty-eight hours or a week with the regularity of clock work. Who of us physicians in the treatment of pneumonia does not watch anxiously for the seventh day and, who of us after seeing the crisis on the seventh or ninth day, can doubt that pheumonia is a specific fever, set up by a living germ, whose time rate is as accurately known as its shape. What would we take for this knowledge of a time rate in the behavior of the eruptive diseases. It plays as important a role as the eruption itself. If for instance we should be put to it to make a differential diagnosis between measles and scarlet fever, this time rate would settle the question at once.

If perchance we should suddenly lose all knowledge of the earth as to its revolution around the sun; if we had never in our lives heard of aphelion and

perihelion, summer solstice or winter solstice, vernal equinox or autumnal equinox, still we would not be without the means of counting the passage of a year's time. Life processes and phases would announce it in no unmistakable terms. When the trees bud and bloom; when the swallows homeward fly; when the white swan southward roves; when the robins nest again; when the katydid begins his twilight tune, all these could be made to count the lapse of 365 days. If perchance the moon should hide herself and no longer shed her silvery light, we would still have in many of the phases of life an uneering means of counting the months as they come and go. In fact many Indians of the fur bearing countries name the months according to the several birds of passage that pass by at different periods of the year. If we should suddenly become imbued with the power of Joshua of old and could command the sun to stand still and his rising and setting would no longer mark off our time into days and nights, we would not even then be without the means of knowing these epochs for we have in our own economy a mechanism that would record them. Destroy every watch and clock on the face of the earth and we would not be left in ignorance of the passage of an hour, for our heart would continue to beat off the seconds, minutes and hours with regularity and precision.

Our body has been called a harp of a thousand strings all attuned to perfect time and pouring forth the sweet melody of life in consonance with the music of the spheres· but we are more than that, we are a chronometer, full of all kinds of wheels and levers and jewels, more nicely balanced, more evenly adjusted than the finest Swiss movement ever made.

If this evidence of a regular time rate is seen in all the organic processes of life, in all the component forms of a living organism, then the same is true of the whole and the duration of life of any species is fixed and well known. There is no kind of life to be sure that is not subject to termination by disease and accident, but aside from this every life has a certain fixed duration, beyond which it can not go and to which it should always attain. As we confidently expect certain changes to take place at certain times, first dentition at six months, second dentition at six years, puberty at fourteen and the climacteric at forty-five, so we may as confidently expect decay and dissolution at a certain age. In other words death takes place, not necessarily as a result of disease and accident, but through natural, physiological laws. The end of life, the decay and final dissolution is just as much a part of life as the beginning or middle and the decline of life down to the very end is just as much in accordance with natural, physiological laws, as is the growth and development of that life. Of course disease and accident overtake much of animal and vegetable life and claim as victims the great majority of humanity, but there are many that die, not because of either and not because of any change in their environments, but naturally, because they have reached

the point of time allotted by nature. Physiological death is not a misnomer or a rarity.

Every form of life has its own definite time to last. Its demise is as much regulated by time as its inception.

A tiny acorn falls in the forest. It happens to fall upon fertile soil and nestles itself away among the leaves sheltered and protected from all encroachments of danger. By and by under the benign influence of proper warmth and moisture, it sprouts, takes root and begins to grow. Its roots deepen and take stronger hold and its branches spread out to catch the sunshine and showers. It grows slowly but steadily. Spring time finds it blooming and autumn finds it laden with fruit of its own kind. In the summer it puts forth its leaves which ripple with the gentle zephyrs and sparkle with the pearly dew drop. In the winter its leaves die and one by one fall away leaving its bare arms as indices of a coming period of rest and sighing the sad requiem of a summer's growth now ended. In its tender years it escapes the trod of man and beast and finally it becomes a full grown tree, the lord of the forest. It has recorded every change of climate and noted in its body the passage of every year. It has weathered many a storm and has given gracious shelter to the birds of the air and beasts of the forest. But it has not and can not live always and finally decay sets in. Its roots and bark no longer carry the sap, the elixir of life; its branches refuse to answer to the call of spring and the tree is said to be dead. It has lived out the time allotted to its species. This is only a type of vegetable life and what is true of it is true of every species of the whole vegetable world. Every species has within it a life to which it may not always attain, but beyond which it can not go. Thus some are semi-annuals, some annuals, some biennials and some are per-ennials. Mushrooms spring up in a night and are the creatures of a few hours. Some trees live a few years, some live an hundred and some a thousand years. Hard wood trees are of slow growth and live longer than the soft woods. Trees that are longest in producing leaves and fruit live longest and trees bearing sour fruit in a wild state live longer than domestic trees bearing sweet fruit.

Away out in the woods, where the foot of man has never trod; or out in the very midst of the wildest, thickest jungle a wild beast has its lair and in that lair a cub is born. It receives nourishment from its parents and is watched with care and protected from all harm. It grows and gathers strength day by day. It comes to maturity and roves the forests as king of beasts. It escapes the hunter's snare and comes out unscathed from many a battle with its own fellow and other beasts of the jungle. It lives a certain time, passes through the changes of old age and decay and finally dies a natural death. As it is with the lion, so it is with every species of insect, bird and beast. Each has its own specific duration of life. The May fly

lives only twenty-four hours and certain infusoria live no longer than two days. Frogs and fish and cold blooded animals may live a long time. Pike and carp have been known to live 100 to 150 years. Eagles and crows live to the age of 100 years. Parrots have been kept in confinement 60 years. Peacocks live 20 years and chickens from 6 to 12 years. Small birds live a shorter time than large ones. Blackbirds and canaries live for 20 years and most of the small birds for 5 or 6 years. The elephant lives 100 years, camel 50, horse 40, ox 20, sheep, foxes and rabbits 7 to 12, dogs 20 and cats 12.

A human being is born into the world. For description's sake let us say it is the first born of a loving couple. It is constantly watched by the admiring parents and no change escapes their watchful eye. Its functions are all naturally performed and it thrives and increases in strength and beauty as the days pass by. Roses and dimples grow it in its cheeks and by and by a smile is seen, the first faint glimpse of intelligence. Soon the astonishing news is announced, baby's got a tooth and after a while the mouth is full of pearly pegs. Kicking, rolling, crawling, standing and walking follow each other in quick succession. Now comes the talking period and baby learns word by word till it can make known in language its every want. Soon the temporary teeth are decayed and fall out one by one and a new set takes their place. At a certain age the boy begins his school career and his mind develops *pari passu* with his body. He passes the epoch of goslings, finishes school, attains his manhood, is fully grown and starts out to fight the battles of life. He continues to develop mentally and physically, marries and settles down for life. He has a pleasant home, a loving wife and obedient children. He accumulates an abundance of this worlds goods and shares largely in its honors. He and his family escape any serious sickness and time deals lightly with him. At 42 he reaches his period of full development. Waste and repair are equal and he maintains this position for a number of years when he begins the down hill slope of life. His sun has passed its meridian and is starting downward toward the horizon. A grey hair obtrudes itself and, if through pride it is plucked out, it promptly returns accompanied by a half dozen of its companions. His eye sight begins to show signs of weakness and his hearing fails. His actions are not as nimble as formerly and the unwelcome knowledge is thrust upon him that he is growing old. Time passes rapidly and he lives mostly in the past. He suffers no want, he does not worry, he ages gently and by and by, having failed gradually and equally in all his parts, he is worn out, lies down and is gathered unto his fathers.

This is a span of life. Over what length of time should it stretch and what is the natural duration of the life of man? It is generally agreed that the conclusion reached by Flourens is correct, that the life of an animal is five times the period of its development and the period of full development is based upon the anatomical fact of the union of the epipheses of the long

bones with their shafts. This computation based upon anatomy is fixed and unchangeable and is borne out by experience. Thus applying this rule to the lower animals their ages are reached as previously mentioned. Man reaches his maturity at 20 years and at that time the epipheses are united to the shafts, so by Flouren's rule he ought to live one hundred years and often does reach that age and in some few cases exceeds it. It is generally agreed, that a person dying before reaching the age of 100 years, has not reached the possible limit of his life. But as a matter of fact few reach this age. According to census statistics there is only one centenarian out of every 150,000 people. There are records of people living far beyond this age, but they are very likely exaggerations, because they lived at a time when no accurate chronological records were kept. It is said that old Parr, as he is called, married at 120 and died at 152 and that Henry Jenkins, who died in Yorkshire in 1670, died at the age of 169. These cases and many others are looked upon as myths. It is a queer fact recorded by most writers on this subject, that centenarians are generally, if not universally, found in that class of society, which gives the lowest mean duration of life. This is seen among the negroes and laboring classes. Census statistics show that the chance of attaining 100 years is eleven times as great among the blacks as the whites. This is attributable to a tenacity of life, which is unexplainable. They survive by a special immunity belonging to their race.

While the age of 100 years is regarded as the possible age of man, yet by common consent the actual limit is placed at 70 to 80; that is, if a person die after reaching this age, his death is not regarded in any other light than that he had reached his time to die, while, if he die before that time, he has died prematurely. If he live longer than 80 years, he is looked upon as living upon borrowed time and beyond reasonable expectation, but yet within the possible range of human life. This limit to life was known to Moses and was set down by him in one of the psalms as three score and ten and ever since his time, 2,500 years before Christ, the natural term of life has been from 70 to 80 years.

In some respects men are what they eat; this is the German view. In other respects they are where they live, but as regards the limit of life they are what they inherit. We live 80 years, because our ancestors lived to that age. No matter to what race you look, nor to what age of the world you refer; no matter to what part of the globe you make your pilgrimage, you will find it the same. Laplanders, Indians, Caucasians, all nations and tribes have practically the same common duration.

But I am asked how about the age of the patriarchs in Bible history and why did they live so much longer than we do now? Who as a child does not remember the catechism question who was the oldest man and the answer Methusela, who lived nearly a thousand years. Do *you* believe that Methu-

sela lived to be 969 years old and that at that age of the world all lived from 800 to 950 years? Well, *I* don't. I have as firm a belief in the truth of the Bible as any one and I don't want to rudely shape the faith of any body, but there are many things in the Bible that can not be taken litterally, but must be interpreted and this question of age is one of them.

I believe that in the beginning God created every thing and that, as far as this world is concerned, he has made no subsequent creations. He has not changed his mind in any particular. No more, no less matter exists to-day than existed at the expiration of our Creator's six days' work. All physical and chemical laws that exist to-day were in action then. All honor to Prof. Roentgen in the discovery of his wonderful ray, but it is no new existence. It remained for him to find it out, but it existed when the stars first sang together. Anatomically and physiologically we are the descendants of Adam. Why should we be like him in every other particular, and totally unlike him as respects the duration of life. This is a question that is within the realms of speculation and uncertainty and upon which men differ, but it is my belief that Adam, when he died, did so in accordance with laws of life and surroundings that began their existence when he began his. By eating of the fruit of the tree of life he would have lived always, but by his own behavior he was deprived of this means of life and was turned out to die in accordance with the laws of his own being. There was no change in Adam. There was a very great change in his home and his food and his habits, but in other particulars Adam outside Eden's gates was the same Adam that walked within before the expulsion. I argue that he was constructed as we are; that he lived under the same sun and breathed the same air as we; that he worked for a living as we do and that he died at the age of 77½ years, a little above the recognized limit of three score years and ten as since laid down by Moses.

There is a difference in the age of the patriarchs in the three versions of the Bible, Hebrew, Samaritan and Septuagint and, as they are all from the same original, there must of necessity be some error. From the time of Adam down to Noah the time of life was in round numbers of 900 years. The Hebrew word translated year literally means iteration or recurring periods. There was not sufficient astronomical knowledge at that early day to know a year by the revolution of the earth around the sun, but the time of one full moon to the next could be seen by all, so a year at time ment a month and not 365 days. Dividing the average age by twelve would make the ages of the early Bible people 75 years. The calculation of a year by moons is still in use among some semi-barbarous nations. It is but natural that the Hebrew computation should resemble other neighboring nations of antiquity and some Greek authors say that this was the method of the Egyptians, with whom the Hebrews were so closely connected. Diodorus and Plutarch confirm this:

Now from the time of Shem, Noah's eldest son, to Terah the father of Abraham the age of the people was no longer 900 years, but 450. Now this was a sudden shortening of the period of life or a change in the method of counting a year took place at that time, which was probably the case. A year now is composed of two moons instead of one and dividing 450 by six is again brought down to 75. In Genesis the 8th chapter and 2nd verse we find the words: "While the earth remaineth, seed time and harvest, heat and cold summer and winter shall not change." These were six seasons of two months each. There are ancient Jewish writers who expressly fix the order and names of these seasons, which beyond all doubt were afterwards used as units of time. The Hindoos and Arabians also early adopted this mode of reckoning time.

In the last period from Abraham to Moses the age of the people was again reduced from 450 years to 150 years, which must be divided by 2 to bring it into conformity with lhe preceeding ages and those of the present. This is founded on the double rainy season in warm countries. The ancient Germans reckoned a year by two seasons of six months each, the early Greeks used the same measure and to this day the Icelanders do the same. There is apparently some discrepancy in the ages of the last one or two generations of each of these three periods, as the methods of computing a year changed during their lives and their individual ages must be computed in part by both methods.

As apple trees bore apples in the garden of Eden and will continue to bear no other kind of fruit as long as the earth remains, so this time rate of life in all its phases has come down to us through six thousand years and will go on the same till life temporal is merged into life eternal.

Had Ponce de Leon lived until now and, aided by all of his posterity, had continued with unabating activity in his search for the fountain of perpetual youth, it would be no nearer discovery to-day than it was when he first essayed the task.

If all of us physicians should fall in line with Brown Sequard and should search day and night for the elixir of life we would all reach the end of life with no other reward than that of folly.

I can not tell you how to live 200 years. I wish I could. Nor can I tell you how to reach the age of 100 years, the possible limit nor even 70 years, the commonly recognized limit. There is no royal road to the attainment of old age. No explicit directions can be laid down. About as good a rule as I can suggest is the one offered by a New Orleans physician when questioned by one of his patrons as to how he should avoid cholera which was then about to reach the city—"Quarantine against the world, keep your bowels open and trust in God."

# A CLINICAL VIEW OF PYELITIS WITH REPORT OF A RECENT CASE SUCCESSFULLY TREATED BY INCISION AND DRAINAGE.

By J. Howell Way, M.D., Waynesville, N. C.

"Local and general symptoms of inflammation in the region of the kidney will warrant the performance of a lumbar exploratory incision. In many cases an opening has resulted in the discovery of fluids beneath the capsule of the organ, and the evacuation of matter has been followed by recovery. Such a proceeding should always be undertaken when persisting symptons point to some structural mischief of this kind. I have never known harm result from an exploration of this nature, even if the result has been of a negative character, but on several occasions autopsies have caused me to regret the omission." Reginald Harrison on "Surgical diseases of the kidneys and ureters" 1895.

Pyelitis is the name given by Rayer to inflammation of the pelves of the kidneys and of their calices. The disease may affect one or both kidneys, it may be acute or chronic in its course, but like the majority of genito-urinary disorders encountered in practice is sub-acute or chronic, undergoing perhaps from time to time exacerbations. In simple catarrhal inflammation the mucous lining of the renal pelves is reddened, swollen and pours forth an abundant secretion containing pus corpuscles, epithelial cells in varying quanity and occasionally also blood corpuscles. In more severe types, met with almost solely as a complication of other pathological conditions, an actively purulent or ulcerative inflammation may exist. In chronic pyelitis the mucous lining of the pelves is thickened and its surface studded with small vascular granulations; the pelvis, infundibula and ureter are also thickened and usually dilated as well. Pus is freely poured forth and if the patency of the ureter be maintained, escapes with the urine. Should an obstruction take place in the ureter as frequently occurs from the thickening of its walls, or from coagulated blood, or thickened floculi of pus, from calculi or from the presence of parasites, it accumulates in the pelvis distending it more and more and giving rise to a condition known as pyonephrosis. This process of dilatation as it increases encroaches first upon the papilla, flattening and eventually obliterating them; later the pyramids are subjected to the same pressure atrophy, and finally, when the pelvic dilatation has existed for some time, the cortical portion of the kidneys disappears. In such cases we have only a sacculated pouch remaining which contains, from perhaps only one to many ounces of fluid oftentimes mixed with inspissated pus, products of ammoniacal decomposition, calcareous matters and calculi. If the pyelitis has been secondary to renal calculi, as it frequently is, there are

also apt to be present more or less extensive ulcerations. Perforation of the renal pelvis sometimes takes place with resultant extravasation of its contents into adjacent tissues or organs. The peri-renal tissues, the bronchi, the pleural cavities, the intestine, the bladder, the structures immediately behind and below Pouparts' ligament, and rarely the peritoneal cavity, are all possible sites for the discharge of the secretions of a perforated pelvis. In cases of pyelitis of long standing we not infrequently have developed from an increase of interstitial connective tissue and an atrophy of renal tubules a condition of contracted kidney differing perhaps but little, save in its etiology from the cirrhotic kidney of certain types of bright's disease.

Probably first among the *causes* of pyelitis is the extention of a diseased condition from the bladder along the ureter to the kidney. Whatever produces retention of the urine may set up cystitis, with its concomitants, fermentation and decomposition of urine, and then later if the cystic disorder continues, extension along the ureters to the renal pelves. It is the cases of pyelitis from this cause which are so prone to degenerate into pyelonephritis or surgical kidney—the pelvic inflammation induced by microbic action involving the proper tissue of the kidney itself. Potent among the influences acting to bring about these results are gonorrhoea, stricture, prostatic disease, pregnancy, abdominal tumours, vesical paralysis, etc. The irritation of renal calculi or of other foreign bodies in the kidney pelvis are frequent causes of pyelitis. Specific influences as tuberculosis or rheumatism at times act as causes. As a complication of typhoid fever, pnemonia, scarlatina, diptheria, small pox it is noted. Traumatism, blows or contusion in the ileo-costal region may give rise to pyelitis. The irritant action of a hyper-acid urine, or of the over-use of diuretics of the stimulant kind, copaiba, turpentine, or cantharides may set up a catarrhal pyelitis. A primary pyelitis or pyelonephritis coming on after over exertion or exposure to cold, and without any of the above causes apparently being in operation—idiopathic pyelitis—has been described by a few writers and its existence denied by the majority of medical authorities, yet I am convinced that we do meet at times with such cases. In this class I have placed the case herein reported.

The mild catarrhal cases occurring in conjunction with the specific fevers are as a rule devoid of very pronounced *symptoms* and doubtless in the great majority of instances pass unrecognized, the pain in the back if present, and modified urine being referred to other causes. Pain in the back, deep-seated, usually limited to the affected side where the disease is unilateral, aggravated by pressure and exercise, is generally present, though in occasional cases this symptom is absent. Where renal calculi are present attacks of nephritic colic are experienced from time to time. In some cases without the presence of stone there occurs attacks of paroxysmal pain having

all the typical features of nephritic colic. The secretion of urine is increased and early in the disease contains blood copuscles, albumin in moderate or small amounts, and an abundance of small round or oval, spindle-shape or irregular epithelial cells thrown off from the renal pelvis. Only a few years since it was claimed that there were certain peculiarities about the pelvic epithelium, the so-called "tailed epithelium," which rendered the diagnosis of pyelitis certain. The recent careful and painstaking investigations in the laboratory of Prof. Satterthwaite have conclusively demonstrated the impossibility of basing a positive diagnosis of pyelitis upon anything found in the urine with a microscope. Later in the disease this profusion of epithelial cells is replaced by pus corpuscles which are evenly distributed throughout the urine, giving it a uniform turbid appearance when voided. On standing the pus settles into a dense greenish oily looking deposit. The specific gravity of the urine varies from 1025 to 1030 and is from first to last as a rule, uniformly acid. Occasionally the pus disappears entirely from the urine for a few days then reappears in increased amount; this being usually due to temporary occlusion of the ureter of the diseased kidney. Exercise increases the volume of pus. Where the ureter becomes occluded we not infrequently have some swelling developed in the ilio costal space. The prominence of this swelling varies from time to time. When the ureter is open it may quite disappear; the ureter becoming plugged again with pus, blood clot, or stone the swelling promptly reappears. The pain in the back is usually greater when the swelling is prominent and pus not flowing freely. Frequent micturition is usually met with in pyelitis, and when this symptom is pronounced in the absence of pain, tenderness or tumor in the loin, errors may occur. This tendency to frequent micturition in pyelitis is present as a reflex symptom even in those cases where the bladder itself is unaffected. Suppurative pyelitis whether occurring idiopathically or as an intercurrent affection is usually ushered in with more or less pronounced chilliness followed by fever. This tendency to rigor is apt to recur, assuming at times a quotidian or tertian type in which event the disorder may be mistaken for malaria. Later the fever assumes a hectic form and the general clinical picture of prolonged suppuration is presented. The clinical course of some cases, more especially those of tubercular character, resemble very much that of typhoid fever. In rare instances cases are seen which show pyuria present with possibly slight tenderness over the kidney from time to time without the supervention of serious constitution or local symptoms. The appetite is apt to be poor, at best capricious, the digestion impaired and the bowels alternating from constipation to diarrhoea. Exceptionally the decomposition of urine and absorption of ammoniacal products give rise to the development of a train of obcure nervous symptoms similar to those presented in the last stage of diabetes. In this connection it is well to bear in mind the possibility of urœmic symptoms arising.

Suppurative pyelitis is frequently confounded with cystitis. The two conditions may co-exist in the same patient, but if carefully noted, the history of the case, the acid character of the urine, the less frequent occurrence of alkaline decomposition, the pain and swelling in the loin, the absence of vesical pain would usually suffice to differentiate the two conditions. In perinephritic abscess neither pus, blood, mucus, epithelium nor albumin are found in the urina; in pyelitis all are present. In perinephritic abscess motion is more painful and the patient as a rule unable to straighten perfectly the effected side, the leg being held in the position of that of a patient in the first stage of hip-joint disease.

The *prognosis* in a given case of pyelitis will depend most perhaps upon the exciting cause. In simple catarrhal cases developing in connection with constitutional disorders the prognosis is good. If the disease be limited to one side recovery is possible no matter how serious the lesion. Affecting both kidneys the prognosis is unfavorable. Occuring as a secondary affection to prostatitis, cystitis, urethral stricture it is necessarily considered serious. Dependant upon a renal calculus, hydatids, cancer or tubercle, we can but view it with concern. When pyonephrosis is present the condition becomes grave; pressure atrophy may destroy the kidney or fatal rupture may take place.

The *treatment* of pyelitis will depend largely upon the causes inducing the disease. During an acute attack attended with fever, severe pain, and frequent passing of bloody and purulent urine, attention to the *primae vie*, with an opiate to allay spasm, warm dilulent drinks, hot baths, hot local fomentations or wet cups over the affected kidney will meet the more prominent indications for treatment. Alkaline and antiseptic diuretics are probably productive of beneficial results in these cases. In chronic cases, and it is this class that are seen, or at least diagnosed, most frequently, where there are reasons to suspect the possible presence of stone, or other conditions which may at any time induce obstruction to the flow of urine, every effort should be made to counteract with suitable regimen, diet and tonics, the tendency to asthenia. The patient's symptoms and the local conditions should be noted most carefully, and after a short time, if the indications of disease continues and the local conditions are unimproved, I believe it is then our duty to cut down upon the kidney and drain it. The use of the aspirator as a means of treatment is mentioned only to condemn it, increasing observation convincing me there are very few conditions of the human body where the scalpel can not be more adventageously used than the aspirator. The views of Harrison as expressed in the quotation above given embody in my humble opinion the true principle of treatment in these cases. As illustrating the application of the principle I desire to direct your attention briefly to a case recently operated upon with successful results.

On December 20th '95 I was consulted by my friend Dr. Wilson, of Sonoma, who gave the following history of his patient, presented a specimen of the urine and requested my assistance in diagnosis and treatment: B. B., a tall angular, robust, mountain farmer aged 38, six or seven weeks previously after working very hard and exposing himself was taken with a pronounced chill followed by fever. Great pain and decided tenderness was early experienced in the left ilio-costal space. The urine was voided frequently and was often bloody and purulent. Chilliness from time to time continued with an intermittent type of fever. He became reduced in flesh and experienced night sweats. The urine continued as before. Sometimes the doctor thought there was possibly a small tumor in the region of the left kidney, at others he was not so sure of it, and even doubted the existence of any. I found the urine distinctly acid in reaction, albuminous, loaded with pus, blood and epithelial cells. A probable diagnosis of suppurative pyelitis was made, and an operation suggested. January 11th '96 I was summoned to see Mr. B., who told me that he had finally "consented to be cut if it could be done without taking anything"—meaning an anesthetic. He was quite reduced in flesh pulse 126 temperature at 3 p. m., $102\frac{6}{10}$. Dr. Wilson stated that the same symptoms as previously detailed had continued present. The patient was placed upon the table, and as careful preparations were made as would be possible in a mountain cabin with one room 16 by 18 feet inhabited by the husband, wife, and seven children. Four ounces of whiskey was administered and a 4 per cent. solution of cocaine muriate was injected along the line of the proposed incision. An anesthetic with inhaler was ready at hand for use in case the patient changed his mind. I must not omit to state however that he did not, and no anesthetic other than the whiskey and cocaine was used. A slightly oblique incision four inches in length was made extending from the last rib at a point from 3½ to 4 inches to the left of vertebral spines, passing a little forward as it decended to the iliac crest. The abdominal wall was carefully gone through being 2¾ inches in thickness at this point, when with the edges of the wound well retracted, the renal capsule and the distended pelvis bulged slightly into the wound as backward pressure was made in front on the abdomen. This was opened when about 8 or 10 ounces of bloody purulent urinous fluid escaped. More or less thick flocculi or partially inspissated pus was found in the pelvis and calices of the kidney but no calculi. After thoroughly washing out the pus cavity a liberal pledget of iodoform gauze was carried to the bottom of the wound which was left entirely open. Dr. Wilson skillfully conducted the after treatment, daily washing out the cavity and gradually shortening his pledget of gauze. From him I learned that only for a few days was there any urinous flow from the wound which gradually filled from the bottom by granulation. The patient called at my office a few days since.

He looks strong and well and tells me that he is entirely free from any symptoms of uninary disease. In answer to my inquiry as to the existence of any antecedent genito-urinary or venereal disease prior to the pyelitis he insisted on possessing a "clean bill of health from his youth up."

DISCUSSION.

Dr. T. E. Anderson:—While I cannot commend the wisdom of the selection, yet I appreciate the distinction of being assigned to open the discussion which this admirable paper to which we have just listened should evoke. I do not flatter myself for a moment that I will be able to entertain you on this subject or add anything to the clear painstaking paper to which we have just listened. In fact, I shall congratulate myself if I succeed in opening the discussion. The disease is an obscure one and an early diagnosis in these cases is almost impossible, and is attended with many difficulties. Pyelitis is chiefly dependent on two great causes. First we have calculus pyelitis resulting from the presence of calculi in the pelvis of the kidney. These set up irritation which begets inflammation, and this constitutes the trouble we are discussing. The most frequent form of pyelitis is the secondary form. It is the form that is the result of inflammation traveling upward from the bladder. In fact, pyelitis is a most common complication and result of cystitis. Any cause that arrests the outflow of the urine, as you well know, is liable to set up cystits by the decomposition of the urine which ensues. This is by far the most frequent cause of pyelitis and is called secondary, and is the most destructive to the renal substance. Of course these cases require first means to procure the free exit of the water, and then the free administration of alkaline diluents etc. As before stated early diagnosis of this disease is very difficult. There are very few things to guide us, though of course with the urinary symptoms present a diagnosis is rendered pretty clear. It was stated until recently that there were epithelial cells peculiar to this affection and hence pathognomonic of it, but recent research has developed that the bladder furnishes these cells, as well as the pelvis of the kieney, and hence their presence is of no diagnostic value and we are left to fall back on the history of the case, upon the attacks of renal pain, and a hæmaturia occuring caused by calculus will afford light as to the existence of pyelitis.

The secondary form or calulus pyelitis calls for surgical interference as up to the present time no solution has been found worthy of reliance; though Buffalo lithia water has many advocates in this condition and may be of service. Here the constant local pain over the kidney and sometimes perceptible swelling in the loin clears up the case and makes it plain that a resort to surgery is the proper thing. In fact without this an exploratory incision would often be justifiable and attended with but little danger to patient.

One point which Dr. Way's paper calls up is that it seems to controvert the accepted doctrine that "*pyelitis is never idiopathic.*" If his clinical observations and findings are true his was certainly a case of idiopathic pyelitis; he found no calculus, and could elicit no history of bladder irritation or urethal obstruction. I am sorry that I can not enliven my remarks by clinical data falling under my own eyes, but it has not been my fortune to see much of this trouble. Happily for us I see gentlemen before me who can speak from personal experience on this subject and I trust that they will favor us with their experiences. What I desire chiefly to do is to emphazize the value of the paper which Dr. Way has given us and to assure him that he has contributed to the interest of this meeting by its prepartion and reading.

Dr. Booth:—I would call attention to the fact that we are and may be misled in diagnosis in later stages of pyelitis, by suppurative inflammation of the kidney by examination of the urine. I was asked by a physician to make a post mortem examination for him on a little patient he had lost. The history of the little fellow was about this. He was a bright boy of about nine years of age. He was taken with pains in the back and lumbar region with swelling, I think, in the region between the hip bone and the ribs, and then in the lumbar regions. The doctor diagnosed the case to be abscess of the liver. He treated him a good while. Finally there was a good deal of swelling in the region I have mentioned and the little boy was taken to a surgeon. This surgeon did not declare his diagnosis, but made an incision just below the last rib, to the right of the lumbar region, out of which poured a quantity of pus. He introudced a drainage tube, and sent the little fellow home. He went on from bad to worse, and died. As I said, I was asked to make a post mortem examination. In cutting into the abdomen, I found that the pus had burrowed in every direction. On coming to the right kidney, or where the right kidney ought to be, I found that there was no kidney there, but simply the remains of the destroyed kidney. There were five large dumb bell calculi, ranging from an inch to an inch and an a half long, with a diameter at one end of about an average of five-eights of an inch and at the other of about three-eighth, and the ureter was literally destroyed by the inflammatory process. The surgeon made an examination of the urine, and found that it was normal. Of course none was secreted by the destroyed kidney. I do not know why the surgeon did not make an exploration. If he had he would have saved the little fellow's life. He might have extirpated that organ, washed out the cavity, put in a drainage tube, and possibly have saved the little patient. In these cases of pyelitis caused by the presence of calculi, I believe that with the proper diagnosis made early, we can save patients by the use of Buffalo Lithia water. There is nothing like Buffalo lithia water to dissolve calculi. While we have various other valuable remedies that have the power of dissolving calculi, that No. 2 Buffalo lithia

is simply wonderful. I have seen a number of calculi cases where I have had nephritic colic stop entirely for years and not return. I believe that this is one of the greatest and best remedies we have in the early stages of pyelitis caused by the presence of calculi.

Dr. Duffy:—Some years ago my brother and myself had a patient who wore a tube, on whom we had operated for abscess of the kidney. The man in the beginning had a very high temperature, and after having aspirated him several times, we cut into the abscess and introduced a drainage tube. The man continued to wear that tube for several years, ten at least. The discharge was very offensive at times, but continued to grow less and less. After a while there was no discharge, and as the tube was a source of discomfort, we advised him to take it away, and he made a perfect recovery. I saw him not many days ago, and he is not having any trouble from it.

Dr. Gibbon:—I have listened with a great deal of pleasure to Dr. Way's paper, and he has gone over the ground so thoroughly that I have very little to say. I am peculiarly interested in the subject owing to the fact that I have had several calculi cases as described. In one of these cases we found calculi in the kidney, and after removing several, we subsequently removed the left kidney. The second case is a case very much like the one reported by Dr. Way. There were no calculi in the kidney, but the urine was full of pus. Had several strictures, had pain in the region of the left kidney and showed symptoms such as described. After eliminating anything like calculus in the bladder, and examining for pus, I made an incision over the left kidney. He wore a drainage tube in his left kidney for twelve months, and I finally advised him to remove it. I saw him two months ago, and at that time he weighed 200 pounds.

One other point I should like to emphasize, and that is the comparative safety of lumbar incision in these cases wherever the pain is present. In the absence of pain it is difficult to know which is the affected kidney. Lumbar incision is comparatively harmless. If we find calculi and no pus in the kidney, we know that we can cure the patient, and therefore I think we should consider the matter. It is not dangerous, and is a considerable hope of relief to the patient.

Dr. Hodges:—I wish simply to make a remark concerning the effective qualities of Buffalo lithia water in the treatment of pyelitis. I second what has been said by Dr. Booth, and I say it because I know of its true value. It is an agent that is always at hand, and that is easy to procure. We need some remedy to fulfill all the indications that are necessary. I can say that I know of no one remedy that we have which so fully justifies our confidence as Buffalo lithia water, and especially that from spring No. 2, when there is much acid, and there is nearly always a very acid reaction in cases of pyelitis. This No. 2 also has what we all know as strongly solvent powers, as all the

cases that have been reported except one has been due to calculus, it is evident that this water has a tendency to do away with the cause of the disease, and is therefore a valuable remedy. I have seen it used in pyelitis time and again, in hospital practice and in private practice. One thing necessary is to use it freely, and I am confident that unless there is a very large calculus, or unless it is an extreme case, benefit will be induced therefrom. I have found No. 1 good also, and I can strongly offer these remedies to those members of the Society who have not used the water, to use it, because I have seen the effects of it.

Dr. Hubert Royster:—I remember one case particularly which occurred while I was in Pittsburg, in which the surgeon cut down into the kidney. It was a case which presented all the symptoms that were found in pyelitis. He was a boy about fourteen years old. He had also been drinking Buffalo lithia water three monthis. He found no stone, but did not feel justified in removing the kidney. He made an incision through the capsule and the patient made a quick recovery and presented no further symptoms. That is about all the experience I have had. In regard to Buffalo lithia water, I am inclined to believe that the (H. 2 O.) does the work. I have asked several physiciens if they have ever tried giving patients the same amount of pure water. Dr. H. C. Wood, of the University of Pennsylvania, used to ask the question, "What is the best diuretic?" There were always a great many guesses made, from digitalis to acetate potash. The correct answer was H. 2 O.

Dr. Tiffany:—Thought that this subject presented itself in two forms, acute and chronic, and it was extremely difficult to make a diagnosis. He was not sure that an early diagnosis could be made. A free incision and washing out will do more good than any medicine. Opening of the kidney is comparatively not a dangerous operation. Unless the ureter is obstructed there will not be a swelling below. The urine from the affected kidney is diminished, and the amount secreted by the other kidney will be excessive. He used Buffalo lithia water or rain water filtered, or boiled water.

Dr. Way:—After the thorough discussion of the paper, I do not think there remains anything for me to add to what has already been said. I would like to say this, that the fact that these gentlemen who have had more or less experience have seen so much of this, emphasize the fact that any of us may meet with this disease, and we should be on the lookout for it. I wish to thank the gentlemen for the very thorough and general discussion they gave my paper.

# THE DOCTOR AS A SOCIAL INFLUENCE—ANNUAL ORATION.

By Henry H. Dodson, M.D., Milton, N. C.

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And if I err,
They all must err, who have to feel their way
As bats that fly at noon; for what are we
But creatures of the night, dragged forth by day,
Who needs must stumble, and with stammering steps
Spell out their paths in syllables of pain?

In ancient Egypt the God Thoth was the guide of physicians and left his MSS. in the oldest known book in the world, the Prissi-Papyrus. This book, written in the sixteenth century before Christ, contains on one hundred and ten pages, the hermetic book upon the medicines of the ancient Egyptians, known also to the Alexandrine Greeks. These pages are supposed to be the revelations from the god Thoth, and with the drugs, prescriptions, weights, and measures, are also the *pious axioms* to be repeated by the physician. He uses these in compounding his drugs. These various incantations smooth his way to the minds of his patients. (Blessed, thrice blessed physician.) These axioms of the wise god Thoth also made easy the often difficult and halting course of the physician, and, in thinking of all this as I was preparing my halting way up to this occasion, I could not but sigh for the same kind Hermes with his spell, axiom, incantation, call it what you will, that I might give utterance to words that would live forever for good and for truth. However, since we modern doctors possess no hermetic book, and the gods are slain by the iconoclasts, we must throw ourselves upon your mercy, and trust to that most potent of all spells written upon the pulsing pages of the present—the sweet sympathy and manly forbearance of generous Southern hearts.

Undoubtedly I am particularly favored.

A Southern audience in a representative city of the New South, and memories of the Old South, wafted to us on the zephyrs of this fair spring evening from the dear old town, with its peculiar associations, just over the way

About four thousand years ago that fair land of Persia, which poets have sung for so many ages, was in her greatest glory. Her business marts were teeming with life, her commercial interests embraced the whole world, and the splendors of her wealth were like the splendors of the sun. (We can imagine her roses in that day of her perfection, and her 'vale of cashmere.') Babylon was the queen city of the world at that time, and Cambyses, the mighty ruler of all this magnificence. His power and influence, and military glory were the themes of every tongue. But there came a day when this glory *palled* upon him, and the chase and the banquet, and the conflict, and the company of his rich, gay courtiers, no longer received his attention.

The beautiful Egyptian Princess, Nitetis, had been betrothed and brought to him in great splendor, and they were awaiting the time required by the ceremonial laws of Persia, before the marriage, when she became dangerously ill of a fever.

Cambyses had forsaken all of his many and beautiful wives, for this, the first perfect love of his life, upon meeting the good and pure and beautiful Egyptain girl and he was awaiting the nuptials with but poor patience, when she became ill.

All the physicians of the court were called in attendance, but she gradually grew worse, and the king, unaccustomed to sorrow, became almost uncontrollable in his grief.

That very wise and very distinguished man of medicine, Nebenchari, of Egypt, had come to Babylon some years before these events, and was in attendance at this time, upon the mother of Cambyses.

By a subtle grace and modest demeanor, as well as the more sterling qualities of heart and mind, this man had won the admiration of the whole Persian court, as well as the entire confidence of the king, and his influence upon the people and society about him, was marked.

Cambyses requested him to attend the Princess in her illness, but he declined, for he was an oculist. No less skilled than the others; the specialists all understood general medicine, (all were specialists), but the laws of professional courtesy strictly preserved each separate branch intact. But the will of the Persian king was greater than all the laws of the Persians, religeous, social or political, and Gambyses commanded Nebenchari to attend the sick Princess.

However, very soon things were reversed and Nebenchari commanded Cambyses, and was obeyed, and the low spoken words of the physician, became the first and only law Cambyses ever obeyed.

It is a pathetic picture, and one which appeals to our sympathies at this distant day. The old physician of her childhood home keeping untiring watch beside the bed of the sick and homesick girl, watching the lights and shadows that flitted across the wan brow, while out upon the terraces, through the vast halls and galleries, into those wondrous aerial gardens, back and forth, now here, now there, paced the unhappy king. Into the sick presence he did not enter. He was forbidden.

All the interest of his life centered in the few, grave words that fell from the lips of Nebenchari, as the hours went slowly by, and this great warrior and king of the mightiest nation of the world, had no will but the will of Nebenchari. For the time being this simple physician propelled the rudder of human affairs, and his word was law, and his actions controlled and influenced a people and society, who were unaccustomed to any influences save that contained in an absolute power, they dared not disobey.

And in Rome under Nero, the physician's influence worked its charm to quiet the passions and quell the rage of an Emperor, who was stronger than Cambyses only because his fierce tyrany and brute force made him so. Perhaps there was never a greater power centered in one man than at this era, and the length of time it was exercised, and the license were as *super-human* as *inhuman.*

When the greatest banquet ever recorded in history was lit by a thousand burning martyrs, dipped in oil, and bound to the stake, the climax was reached. But once this brute force, in the midst of his fiendish life, yielded to gentler influence. The woman, Nero had slain half a score of men and women that he might lawfully possess, lay ill of a blow he himself had given her in a fit of jealous rage, and he was like an untamed beast in his grief and anguish.

Then the court physician in attendance upon the sick woman, whose beauty had wrought such misery and such mischief, gave also, as did Nebenchari, a great monarch the first command which he had ever received or obeyed, and the raging tyrant grew calm, his anger cooled, his anguish was held in check, and, he also, like Cambyses, awaited with all the interest of his life for the few words, spoken scarce above a whisper, occasionally at the door of the sick chamber.

Men bowed before Nero, great women flattered and trembled. Slaves cringed. Fleets went out to sea and came again at his word. Armies were marshalled. Legislative bodies made and pronounced their laws according to his whims; but this doctor, who had arisen, step by step, to this triumphant hour, had the courage to stand face to face before the desperate temper of a man, whose murderous deeds came more easily than his breath.

It would be interesting to study a character like this. I think it would be helpful. It was certainly not a common one, in any sense, nor one at all in keeping with his times.

This physician of few and decided words, but perfect self control, and very resolute bearing, had his fingers upon the pulse of Roman Government and as 'the *world* was *Rome*,' one word of his might change the course of nations!

And again in Russia, at a more recent date, there is an example as you all well know, of the same influence of the physician over a great monarchical power.

Except that no northern splendor ever quite equals the lavish richness of scenes laid under warmer suns, the court and monarch also were as great as Persia and Rome in their glory.

In royal magnificence, indeed, I suppose no other quite equals the Russian court. In jewels, rich costuming and embellishments it exceeds all others.

But the story of Russia and the late Czar and his Scotch doctor are written so recently, and are so familiar, that I will only make a passing allusion to

them here. I cannot entirely omit the mention of one of our profession, whose social influence was so unquestioned.

There was no subject upon which the Czar did not consult his medical friend, and every branch of knowledge received his attention, and his vigorous intellect, wonderful executive ability, and strong good sense, carried him safely through the enormous weight of responsibility, the Czar continually heaped upon him. Municipal government, hygienic laws, social regulations received the attention of this untiring worker and thinker and were made better, cleaner, and stronger for his authority and interest. Indeed the whole Empire received benefit from him. Such a spirit was just what was needed in the social life of Russia.

I have chosen these several illustrations from the past, and these three examples in particular to show what power may be, and has been in the hands of the physician. Not always because he is, or was a physician, but because, with the advantages of the profession in its social relations to mankind, the right man, or the man using his advantages rightly, may have the power to control and benefit his fellow men, possibly as no other can.

There are many instances in history of this ascendency, but I have selected these three, because they belonged to the three greatest kingdoms of the world, whose rulers were absolute monarchs; and nothing has ever equalled their strength and magnificence.

Besides it is pleasant to draw pictures from the past. The past is fair of contemplation—the angles are smoothed away.

There is in this country a celebrated painting of Joan of Arc, by a great impressionist artist. Viewed at the ordinary distance for studying a painting, it is a confused mass of dauby paint. But slowly recede from the picture, with the gaze kept upon it, until you reach the entire length of the gallery, at each step the paint becomes smoother, the meaningless dash rounds itself into shape, until there appears before your wondering view, the figure of the Maid of Orleans, bound to the stake, and enveloped in flames her fair, strong, heroic young face uplift to heaven in a transcendent rapture of expectation!

Is it not so with life?

Time does much to smooth the rough perspective to a more harmonious acceptance.

Each is bound to his stake and the fires of his daily existence are sending their fierce flames about him.

I think it need not lie with time and distance, always to discover the heroes and the martyrs!

Against this background of far away Eastern magnificence and Southern romance and Northern splendors, much of it softened by time and beautified by the touch of song and brush, there stands out a figure so clear and well

defined, and whose surroundings present so vivid a contrast to those gone before, that I have chosen him especially, this evening, as a true type of social influence among the medical men of to-day, and would like to dwell a little upon the subject. This is Dr. Oliver Wendell Holmes, an autocrat in his way, as great as any, and yet a most fitting representative of American republican independence.

Dr. Holmes as we all so well know, said and did and wrote a great many true and beautiful things in his life, but I think he gained the enviable position he occupied more by the way he said and did them than anything else.

And this I suppose may be called tact. People say that tact cannot be cultivated. *Whatever its end, its means to that end, is the saving of the feelings of others.*

Once a king had two physicians attending him for he was ill. One night he slept a short while, and had a dream which disturbed him greatly. He asked one of the physicians the meaning of the dream. The man of medicine felt his pulse, looked at his tongue, and slowly shaking his head said in mournful tones "Woe unto thee, O King, all thy kinsmen shall die before thee."

This so enraged the king that he had the poor fellow scourged, and dismissed him. He called the second physician, who likewise felt his pulse, and looked at his tongue, but smilingly said, "O king live forever, thy life shall be longer than the lives of thy kinsmen and the men of thy house." Then the king smiled and heaped presents upon this man and made him Court physician.

Possibly this is tact. What it is we scarcely know, but whatever it is Dr. Holmes possessed it to a great degree, and as I said, this more than anything else made his life the social success it was for fifty years.

Emerson was more of a philosopher than Holmes, Lowell a better journalist, Longfellow, Whittier, Byran truer poets, Hawthorne was by far a better novelist, and there were many practicioners as good as Dr. Holmes, and finer surgeons, but Holmes was good in them all and superior to them all in the possession of those acute sensibilities which attune themselves to the varied moods of men. That *sixth sense!*

His poems are of the social order mainly. "Old Ironsides" written when in his teens, was an appeal to the social order of things.

The old vessel, Constitution, used in the war 1812, was to be destroyed and these ringing verses from the pen of this New England youth, appealing to the patriotism of his countrymen, caused a revulsion of feeling all over the country, and the old vessel was preserved fifty years longer. This of course brought the young poet into great popularity, and from that time on to the end of his life, his social success was undiminished.

Whenever a distinguished guest came to this country, when a great ban-

quet was given, and in any great event of interest or importance, political or social, Dr. Holmes was invited to be present, and add to the occasion by that rare sense of humour, which has brightened the century. He seldom failed to respond and was always ready, always courteous, and to the close of his long life, he influenced the social affairs about him. To the very end of his life he kept that pleasant wit, and his indomitable spirit was not quenched by age.

Just before he died, at a banquet given for some honored guest, he repeated that most beautiful of all his poems, "The Last Leaf," which in itself distinguished him.

He fully appreciated the touching pathos of the scene, and all the pathetic beauty of a ripe, rich old age, singing its own requiem, standing beside the polished board, where were gathered representatives of the best social element of his life and century. Deaf, eyes dim, hands shrivelled with age, and voice tremulous and high pitched, the old doctor bore himself, as he always had done before, upon such occasions, with modest grace and gentle humor:

"But now he walks streets
And looks at all he meets
Sad and wan;
And he shakes his feeble head
That it seems as if he said
'They are gone.'

The mossy marbles rest
On the lips that he has pressed
In their bloom;
And the names he loved to hear
Have been carried for many a year,
On the tomb.

And if I should live to be
The last leaf on the tree
In the spring,
Let them smile as I do now
At the old forsaken bough
Where I cling."

It is true that no gem ever had a more brilliant setting than did this sparkling jewel of humanity. In the first place, he was well supported, and every circumstance of his life favored him.

If a speaker enters a large building which is to be used for purposes of speaking, he immediately takes note of the acoustics. If they are good, with little effort, his voice fills the whole place; and in a whispering gallery, a whisper will sound along the walls, up and down, filling the whole place also, mysteriously, almost without an effort.

This greet nineteenth century, the greatest in all the world's history, sounds the good deeds of those who live and die in it. Each fine action is easily accredited, made much of, brought to the front, like in the whispering gallery it is intensified by its surroundings.

Dr. Holmes was born near the beginning of this great century, and lived along with it, and died near its close. This was much. He lived amid thrift and public spirit, and was bred by competent, faithful superiors. The beauties of nature were lavishly spread about him; the fairest New England scenery, the garden spot, where nature takes on her most graceful attitudes, and wreaths herself in colors and shapes as beautiful as imagery.

Of Dr. Holmes, it may truly be said; "To whom much is given, of him shall much be required." Nature heaped her gifts upon him with lavish hand, but he returned them with interest. He more than doubled his talents, and therefore deserved the honors and was well fitted to influence, the social life of his city, State, and country.

I think we doctors like to feel that this doctor was a greater power, that his success was more assured, his influence a little stronger, that he devoted a part of his best work and time and talents to medicine. That he chose this of all professions, and faithfully worked in it. Worked in it—thought for it, and dearly loved it. And certainly all will esteem him more for knowing that he sat by the sufferer, and tenderly ministered to the sick; and relieved humanity, as well as instructed it and refined it and made it better.

Nothing he has ever written has so taken hold of mankind as the autocrat, which he wrote at fifty years of age—in the prime of his manhood. All the world loves Dr. Holmes for the autocrat. This is the very essence of the man's spirit and is distinguished by the cheerful good will and *bon hommie* and kindly philosophy and loving tender humanity that characterized him. In it he gets so near to these deeper feelings within us, which so seldom cry out for sympathy.

I will let the autocrat speak for itself for the purifying influences of society; knowing that it cannot fail of appreciation, and I hope of application:

"Did you never in walking in the fields, come across a large flat stone, which had lain there nobody knows how long, just where you found it, with the grass forming a little hedge, as it were, all around it, close to its edges, and have you not in obedience to a kind of feeling that told you it had been lying there long enough, insinuated your foot or your stick, or your fingers under its edge, and turned it over as a housewife turns a cake, when she says to herself: "Its done brown enough by this time?

What an odd revelation, and what an unforeseen and unpleasant surprise to a small community, the very existence of which you had not suspected, until the sudden dismay and scattering produced by your turning the old stone over. Blades of grass flattened down, colorless, matted together, as if

they had been bleached and ironed; hideous, crawling creatures, some of them caleopterous or horny shelled—some of them softer but cunningly spread out and compressed. (Nature never loses a crack or a crevice, mind you), black, glossy, crickets, with their long filaments stricking out, like the whips of four horse stage coaches.

Motionless slug-like creatures, young larvae, perhaps more horrible in their pulpy stillness than even in the infernal wriggle of their maturity. But no sooner is the stone turned and the wholesome light of day let in upon the compressed and blinded community of creeping things than all of them, which enjoy the luxury of legs, and some of them have a good many, rush round wildly, butting each other and everything in their way, and end in a general stampede for underground retreats, from the region poisoned by sunshine. Next year you will find the grass growing tall and green where the stone lay; the ground bird builds her nest where the beetle had his hole; the dandelion and the buttercup are growing there, and the broad fans of insect angels open and shut over their golden disks, as the rhythmic waves of blissful consciousness pulsate through their glorified being."

The man who wrote this is worthy of emulation. But, many will say, to emulate a man so gifted were in vain. This is true as far as all of success goes, but his life makes one feel a desire to be something, to do something above the ordinary, in the cause of right and truth.

It is good to keep such a life before us. If we walk along at wet beach and feel our feet in the soft sands, looking backward we naturally expect to see footprints. If there are none, it is phenominal. Something is wrong. *And there is no life but leaves its impress.* There is something wrong otherwise, and in the medical profession I believe there is field for deeper impressions than anywhere else. If from no other reason, the very sharp contrasts would make it so. Contrasts daily occurring in the physicians life. Black on white.

The doctor every day almost, produces strong effects. Our surroundings and gifts may not be anything corresponding with that of Dr. Holmes, but the impressions we make are as strong and may be as lasting. The influence possibly as great or greater, and, like throwing the tiniest pebble into a little rivulet and stirring a little ripple, which we know will stir another and it another and never cease until the mighty billow breaks on the distant ocean shore, so our little individual influence may swell one day into a great social movement.

The doctor, possibly, more than any one else feels his social responsibility less. This is natural. He gives more of himself than any one else, in his work. However mercenary or selfish a physician may be, he cannot practice medicine without giving of his own vitality. Therefore he thinks, if he thinks about the matter at all, that no more can be expected of him and his social

duties go by the board oftener than not. And he is excused or excuses himself, but the influence is going on, whether he cares or not.

An invalid lies on the sick bed day after day, mean, squalid surroundings; no beauty, no refinement, no comfort, and as the hours pass, in their terrible monotony, the visit of the doctor becomes the one accentuated spot in this life. It brings a taste of the social life outside, so unknown and far away; it brings comfort often, variety always, and something refining and cleanly, and the words of the doctor bring food for thought for many weary hours.

I think the majority of physicians would be amazed at the power they possess over the minds of those they attend in sickness, especially where the contrasts are sharp. Long after the patient is well, indeed often to the end of his life, he remembers the disjointed remarks of the physician, who forgot the visit probably, in ten minutes after it was made. But the visit was an influence perhaps for social elevation or social degredation. It raised that man estimates of life or lowered them. No judgment bar ever witnesses sterner sentences than pass in the mind of a man or woman when the physician enters his or her presence and means life or death, happiness or misery, good or evil for that poor suffering brain and heart. Elevate, refine that man or that woman and your part is begun in the work of social regeneration. Your foot has turned the stone and may be, the sunlight will pour in and the evils flee away, and next year in that heart, the birds ill sing, the grasses grow and the flowers blo m, and the angels keep guard there.

Improve the health, the hygiene, the morals of one generation of people and make them happier, and you will improve society for coming generations, without number. This is worthy of consideration, and the social good or evil may rest with us more than we can know; with us as individuals, with us gathered here in a body to-night, with the various societies throughout our land. Perhaps we do not use our power in this direction, because we do not realize it. We are strong. Are we willing? As a great social good I doubt if we have ever been considered very broadly. But is it not time? *Some great social influence is needed badly.* Men of the highest intelligence are drifting downward; intemperance still claims its tens of thousands, prostitution is boldly defying the civil regulations, and claiming recognition from the very law it defies; unrest and bitterness and ominous rumblings may be heard every where, coming up from the masses of people; our prisons and reformatories are over-crowded and our insane asylums swarming with victims of these terrible evils. There are rumors of war.

The greatest forward movement of all the age is upon us. The movement is the saving of society, the uplifting of humanity.

Is there any influence that could so save and uplift as would be ours, systematically, unostentatiously, unitedly, faithfully exercised?

The light of the nineteenth century are *fading*, *fading*, *fading*. The first

faint beams of the twentieth century is falling athwart our great country. Ere long, in all its glory, the greatest century yet, will burst upon us with all it holds of discovery, improvement, good and evil, life and death.

Dr. Holmes was a prophet. All true poets are prophets. And standing upon the circle of the century, peering into the mysterious beyond, ere he passed, he prophesied:

> "Hush, while the window-rattling bugles play
> The nation's airs a hundred miles away,
> While wondering science stands herself perplexed
> At each day's miracles and asks, 'What next?'"

The tide cannot be stayed. Science is about to unlock such treasures as she has never yet revealed to mankind—the very pearls of her repositories. Are we ready?

Like sheet lightning playing about the horizon, the faint flashes from the realms of pschycal research play about us. They come, they go. Ere long the light will grow steadier. Now we almost grasp a truth, and lo, it is gone. It will not be so always. We cannot bear the full light quite yet. The occult sciences are like unexplored country, and our bearings as yet so vague, that our footsteps tremble in uncertainty.

These indistinct flashes and uncertain ways are but suggestions of things yet to be.

To enthrone the spiritual aud relegate matter to its proper environment will be the work of the future, and those mysterious powers so long concealed within us, and unrecognized, we can hope to see used only for the good and happiness of mankind. Does not this lie a great deal with us, the chosen keepers of the most precious gifts of science?

And when science shall say unto us, "know thyself," will we be ready, and worthy to receive and rightly value the majesty of God's great intelligences?

It is time the work of purification begin, that with cleaner hands and clearer eyesight and purer hearts, we and they who come after us, may be ready to receive and adapt a knowledge we have not yet attained unto:

> If not prepared, woe, woe,
> Chaos aod gross darkness. But oh,
> If worthy we,
> How like to realms above will be
> This planet here below.

There are many in our noble profession, who are worthy to receive and apply the best and most sacred gifts of science. Faithful even unto death. But there is one in particular, who comes to my mind, or rather I cannot get him out of my mind, and will present him to you as an example of a man

who lived only for other men, and gave himself and spent himself that men might live better and die easier. It is true that this is fiction, but the fiction is taken from life. All of you must have made the acquaintance of the doctor of the old school. Was any one ever more faithful or worthy than he? Was anything ever more perfectly beautiful than his life? After working for hours with some poor sufferer and finally succeeding in driving the dread enemy away, and bringing relief, his face would be transfigured into beauty, and crowned with a glory, not of earth. Shorn of all exterior beauty, the beauty of the heart was well nigh perfect.

For those who live always away from the busy marts of men, deprived of all the artistic refinements of life, with high tastes ungratified, except that most perfect of all gratifications, (a sense of duty well done; and living thus that others may live at all), to such Dr. MacClure can bring only solace and encouragement. Was there ever truer nobility combined with more perfect simplicity?

Certainly as man reaches his highest perfection, his nobility depends less upon exterior surroundings.

We cannot attain all of us, unto the eminence of court physicians, nor can we all shine as did that man of wit and wisdom, Dr. Holmes, but it is possible for each one of us to be like Dr. MacClure, the noblest of them all. To be brave like him. To be faithful, as he was, and simply in our every day existence, live lives so noble that men will grow unconsciously nobler and better.

Dr. MacClure literally gave himself for mankind. His thoughts alone for himself and his God:

> "Evening at last, his hour of respite brings
> And on his couch his weary length he flings.
> Soft be thy pillow, servant of mankind,
> Lulled by an opiate, art could never find.
> Sweet be thy slumbers, thou hast earned it well,
> Pleasant thy dreams—Clang! goes the midnight bell,
> Darkness and storm; the home is far away
> That waits thy coming, ere the break of day;
> The snow clad pines their wintry plumage toss,
> Doubtful the frozen stream thy road must cross;
> Deep lie the drifts, the slanted heaps have shut
> The hardy woodman in his mountain hut."

Dr. MacClure, and such as he, doctor or not, in country or in city, do more for the uplifting of humanity, and the true elevation of society, than can ever be known, until the secrets of all lives are known. Every man, woman, and child, whom he attended, in a way belonged to him, and when they unconsciously received a refining influence from his shaggy presence, it was the

great soul of the man illuminating the smaller souls about him. He was greater in his simple life, than the greatest physician of the greatest court, for:

"It seems to me
Its only noble to be good,
And deeds are more than coronets
And simple faith than Norman blood."

And what could have been simpler and grander than his death?

If we must become as little children to enter the kingdom, then William MacClure is safe of his crown.

Wounded often in his terrible rides, he yields at length to disease. Attended by one faithful friend, lying in his far away mountain hut, devoid of comfort and every refining touch, desolate, his life is slowly fading away. Weary to death, in his troubled sleep he imagines the snow flakes, beating upon his window pane, to be a messenger come for him to go to the sick: He thinks he is out again in the fearful storm, battling with the fury of the wind; blinded, half frozen, he and his most faithful friend, his horse, stumble on through the darkness. They fall, arise again, and slowly make their fearful way, step by step, on, on, on. Then he is more quiet; the terrible struggle is nearing its close. He thinks he is a little child talking to his mother, as she quietly passes in and out. Now he is lisping his nightly prayer at her knee:

"This night I lay me down to sleep
I pray the Lord my soul to keep.
If I should die before I wake
I pray the Lord my soul to take."

The grand, simple life is over. Is it not better for Society that such men live?

And my brothers, in the profession and out, and you of tenderer sympathies, is it not worth the sacrifice of all life's riches and pleasures and honors, to live and die like this?

This life is great, but it is not unattainable. We can live it in the crowded city as well as in the lonely mountain height:

"And when our cheerful evening past,
The nurse, long waiting, comes at last;
Ere on her lap we lie
In wearied nature's sweet repose,
At peace with all her waking foes,
Our lips shall murmur, ere they close,
Good-night, but not Good-bye."

# THE MANAGEMENT OF GESTATION.

By Charles Adrien Julian, M.D., Thomasville, N. C.

*Mr. President and Members of the Society:*

The selection of my subject has been determined by many considerations, and I would fain follow the advice given to authors by Horace, the latin poet, "To choose one equal to their strength, and to ponder well and deeply what their shoulders will bear." No doubt, as chairman of this section, I am expected to elaborate upon the advances made during the year, but the literature has been so enormous and the dissertations so complex, that I might well hesitate. Puerperal sepsis has been the greatest boomerang and by far the most popular subject, but when I concluded that I knew but little about the pathogenic micro-organisms that are said to infest the puerperal subject, I wavered, and my uncertainties have not yet been dispelled. It is my desire, however, to present as near as possible a subject which I fear does not receive at our hands the consideration it demands, but one I believe to be of vital importance.

## MANAGEMENT OF GESTATION.

The normal duration of pregnancy in woman is 280 days, and while we do not class it as an illness, there are associated with it certain phenomena, the changes in the vascular and nervous mechanism of the generative organs often produce pathological conditions that require attention. The strictest care and watchfulness is necessary to procure safety to the mother, health and vigor to the off-spring. The gravid woman should be sound in body and mind to transmit to her young thorough development. Repeated precautions should be given in regard to food, clothing and exercise. Carelessness and ignorance are responsible for small, puny and illy developed children. It is claimed that "Dame Nature" will care for her subjects—that was true in primeval ages, but in this era of enlightenment and civilization, surrounded by societies, obligations and fashions, it has become almost a pathological process instead of a physiological, requiring the advice and assistance of sensible and thoroughly competent physicians. The proportions of the body, the intellectuality of the minds of the future generations, depends largely upon the hygienic and medical care during gestation. I concur in the statement made by some writer "that the thing most to be desired in our offspring is quality, not quantity."

## INFLUENCE OF AIR, REST, AND EXERCISE.

The pregnant woman should take moderate exercise every day and encouraged to breathe freely pure and wholesome air. Walking is by far the best and safest method of exercise. It strengthens and nourishes soft, weak and flabby muscles, eccelerates the circulation, and builds up the tissues.

Gentle massage, avoiding the abdomen, should be practiced. Violent exertion, jumping, dancing, lifting, and horse back riding should be forbidden. Her sleeping apartments should be well ventilated, the doors and windows thrown open to allow her to imbibe restoring air and sunshine. Fresh air eliminates the toxic matter in the blood; close rooms and obnoxious atmosphere have a deleterious effect upon her and the fœtus. Abortions are often produced by breathing air laden with carbonic acid; therefore she should never be allowed to be in large assemblies. Rest is no less a necessity than exercise. Ten hours of absolute rest and sleep should be enjoined out of every twenty-four. At night no demands should be made upon her overstrained nerves. Sleep has a calming and sedative influence. Precautions should be given in regard to coition and perfect abstinence demanded where threatened abortion or miscarriage exists.

### FOOD.

Meigs says, "The reaper in the harvest field requires more drink and food than the idler, the woman who maintains not only her own development, but also furnishes material for the development of the child may in respect to her wants be compared to the reaper." This is true, but excesses should be avoided; small quantities of plain and nutritious food should be taken at short intervals, the diet varied from day to day, the appetite the guide and always reasonably indulged. As pregnancy advances the quantity, quality, and number of meals should be increased. The demands upon the system for stimulants can be met by giving small quantities of coffee, cocoa, or cola, but never, under any considerations, should alcoholics be allowed.

### CLOTHING.

In this, advice is badly needed. While physicians are not mantua-makers, they should strenuously forbid pressure upon the breast, tight corsets about the waist, and garters around the legs. The Roman Matrons as soon as they became pregnant were compelled to remove their girdles, and it was a law among the Spartans for their pregnant women to wear loose gowns so as not to prejudice the full development of the precious charges of which nature had rendered them the momentary depositories. False modesty is the precursor of many evils. The effort at concealing pregnancy places the child in jeopardy and brings untold suffering to the mother. Well moulded dresses to the figure can be worn during the early months, but corsets with stays should never be allowed. Dress forms used over the breast should be condemned. The clothing should hang from the shoulders, and close fitting drawers used to prevent the limbs from chilling. The texture of garments must be determined by the season and the changes in temperature.

### BATHING.

A constant cosmetic care of the body is of the greatest importance to

mother and child—personal neglect is a matter of disgust and abhorence. Cleanliness, the rational regimen, is essential during the whole period, and to this end alone should we direct the bath. The tepid sponge bath is all that is needed. The genital organs should be kept scrupulously clean. Hot injections should be forbidden. If they are needed to control leucorrhoea, use a fountain syringe so as to obtain a continuous flow and then at a very light pressure. Small quantity of common salt, soda or witch hazel, can be added to the bath.

### THE PRE-NATAL IDEA.

It must now be conceded, and is by able writers, that maternal impressions may be shown in the child. While scientific reasons have not been fully adduced, still we see unmistakable evidences nearly every day. Parvin, Patterson, Guinn, Classen, Dabney, Leggett, and many others, report cases and support strongly their belief. I am sure that this so-called mysterious influence can be physiologically explained, but in this paper I will not attempt proof but simply record my belief, and urge that you advise your patients to be surrounded by such things as conduce to cheerfulness and sunshine, the elevation of her ideas and the augmentation of her intellect. During gestation there are stronger emotions and greater superstitions—the woman is rendered more susceptible and impressible, hence she should be constantly warned not to look at unsightly objects lest her vivid imagination impart deformities to her child. We want more to do with the intellectual effect, and to this end must we fortify our patients. Anxiety or exhaustive mental emotions in the mothers have produced idiocy in the child. We should well consider and remember that all the employments of the pregnant woman should be agreeable. It is a splendid thought to know that woman can endow her off spring by self culture. She should fill her soul with music, study the fine arts, and fix her mind upon the proportions of the most perfect specimens and models. A mind continually filled with high thoughts, pure sentiments, bright pictures and noble work, elevates the character and shapes the destiny of its off-spring. The peculiarities of nations are known in this way. The music of the Italian, the grace of the Greek, are the result of the contemplation of their surroundings. Poverty is no excuse. Every town should have a public library, art gallery, and auditorium. The attendance upon religious institutions engender high morality and virtue, and whether procreated by fathers steeped in vice and crime, these high and holy emotions educate the child and form its disposition. It is certainly vastly more easy to prevent than to cure. It is much less a labor to handle, to bend, to shape the twig than the full grown stubborn oak, still easier is it, then, to deal with the acorn than with the twig. Imbue them with the consciousness of their artistic power in maternity and teach them that their impressions will exert

a transforming power, and produce qualities in their young that they do not possess themselves.

NUASEA AND VOMITING.

Most cases are accompanied by these annoying symptoms, and there are many instances where it becomes serious and distressing. Usually it is confined to the early morning, and relief is obtained by proper hygienic measures and the taking of small quantities of food before rising. The prescriptions for this trouble are legion; among the vast array recommended are ice, iced champagne, opium, fruit juices, vichy, creosote, and bitter tonics. A 20 per cent. solution menthol in olive oil has proven useful. Where there is a persistency of trouble during the day, ascertain the causes and treat *pro-re-nata.* The factors to which this is most commonly referred are: Reflex action, diseased condition of the uterus and stomach. The multiplicity of remedies prescribed shows barrenness in treatment.

CONSTIPATION.

Too little attention is directed to this, and it deserves more than a passing mention. Great inconvenience is especially experienced by pressure. Dizziness, headache, dimness of vision, nausea and vomiting are the results. Dieting and the use of laxative waters are by far the best methods to overcome the trouble. Careful and gentle massage practiced daily often gives the desired effect. Impacted feces should be removed.

PTYALISM.

This affection is decidedly a neurosis; though rare, when present it is quite troublesome. The iodides, bromides, and astringent washes are recommended, but there seems to be no medicinal agent of much value. The induction of abortion is gaining favor where other means for relief have proven futile.

LONGINGS.

There is no need of an exhaustive considerations of this subject. It has been handed down as a tradition only. Dr. Doran, of London, puts it: "For ages women had expected to long, and had longed accordingly." There may be a physiological need for certain classes of food, and no doubt it is beneficial to supply them. I have seen women who supposed themselves pregnant, afterwards found they were mistaken, possessed with these vagaries and cravings. There are really no facts to prove these superstitions.

PRURITUS VULVÆ.

This is a symptom referable and secondary to some other trouble. Essentially it is irritability of the nerves that supply the vulva. The itching and burning, however, is not always confined to the vulva, but frequently ex-

tends to the skin of the mons-veneris and down the thighs. Scratching and rubbing aggravates and diffuses the pruritus. Much stress must be laid upon the observance of absolute cleanliness, and appropriate treatment directed to the pre-existing disease. We will never go amiss by prescribing washes for the vulva and vagina. Patients of nervous temperament demand rest and constitutional treatment. Only a few weeks since, I had a case of most intense pruritus in a woman seven months pregnant. I inquired as to causes, but found none. I inspected the external genitals, found them heated and swollen, but no discharge. The itching and burning was terrific. I made vaginal examination and found nothing. Her health was good and there was nothing abnormal about the urine. I made every local application at my command to alleviate the suffering. Morphia hypodermically gave but little benefit. She began complaining of pains in the back, and I feared premature labor. The labia were badly swollen. I resorted to puncturing them, and to my gratification the patient was rapidly relieved.

### VARICOSE VEINS.

It is not a rare thing to find varicose veins in the pregnant woman, indeed, it is very common. We are seldom called to see these cases unless there are large dilatations or the extent is great. Toward the end of term it is extremely dangerous to allow your patient to remain in a standing position; when the varices are large or painful, there is probability of inflammation followed by rupture and hemorrhage. It is our duty to give the warning in time, and recommend strongly the proper treatment. Two methods only are open to us—support of the veins and rest in the recumbent position. Where the varicosites occur below the knee, rubber stockings should be worn, but if the veins of thigh and vulva are involved, bandaging and pads are more satisfactory.

### PROPHYLACTIC MEASURES FOR THE BREASTS.

Nothing gives more comfort to the lying in woman than prominent healthy nipples, and this can be secured by proper attention during gestation. Excoriated or fissured nipples give rise to great suffering and occasionally mammary abscess. Much can be done to prevent this by bathing and anointing the breasts and nipples every day for a month before delivery. The epithelium can be increased over the nipples and the tissues rendered better able to resist the nursing. In some females there is often an excess of fat overlaying the fascia of the breasts, which causes an increased stretching of the skin and retraction of the nipples. Frequently they can be procured by strapping up the breasts, and the use of a nipple shield. Stretching and friction cautiously applied from day to day, in my opinion, give better results than the use of the breast pump, or the services of a puppy. The intimate nervous connection with the uterus forbids, I am sure, such severe methods.

ALBUMINURIA.

With the knowledge of the existence of so high per cent. of albumen in the urine of pregnant women, it is remarkable how little attention is given to the analysis. During the past year there have been numerous contributions upon this subject, and I believe that many agree that where these symptoms are persistent and obstinate, or where chronic renal disease has been known to exist prior to the pregnancy, the induction of premature labor is justifiable and necessary. After the fifth month the urine should be examined at least once every three weeks. When there are premonitory symptoms, such as swelling of the ankles, œdema of the eye lids and face, examinations should be made upon their appearance and continued. Albuminuria is a predisposing cause to puerperal mania, eclampsia, and hemorrhage, and Barnes says "that albuminuria accruing toward the end of pregnancy is a predisposing cause of puerperal fever." Dr. Samuel Busey, of Washington, (*American Journal of Obstetrics*) thinks that there ought to be little or no mortality from puerperal eclampsia in private practice where the woman has been in charge of the doctor from the beginning of pregnancy. As the presence of albumen is the indicative symptom, the treatment is based on the conditions coincident with it, or on which it depends. If commenced in time, an exclusive milk diet seems to meet the demand, and some claim that they have seen albumen disappear entirely by the use of the milk and egg diet.

RELAXATION OF THE PELVIC SYMPHYSES.

So far as my experience goes, I have seen but few pregnancies where relaxation of the symphyses was noticeable. Many obstetricians say that the pelvic joints yield in all pregnancies. This is more than problematic, as good authority asserts that there is always an increase in the diameters of the pelvis toward the end of gestation. The extreme cases must be rare, but we often have symptoms due to this which we attribute to other causes. Where there is pain in the pelvis, augmented and increased by locomotion, when walking becomes tiresome and the gait is "duck like," bearing down sensations of the pelvic organs, it is necessary to give the patient rest, and keep the articulations immovable by mechanical appliances.

APPLICATION OF ROENTGEN'S DISCOVERY.

The dawning of the twentieth century has placed us upon a golden threshhold, and objects that have been hidden in the dark recesses of the human anatomy are now brought to view by the "All Seeing Eye." The onward march of science is revealing the most guarded secrets of nature and those things that have been only an apparition are plain and comprehensive. Science to-day has given us fluorescent eyes to read through impenetrable substances the position of the fœtus in utero after the beginning of ossifica-

tion of its bones. The X rays bring to light the deformed pelvis and give us justification in our acts. The harlot who has "only taken cold" will no longer be plied with torturing questions and examinations, but will be revealed by the pressing of a single button. This has given to the obstetrician the magic wand and the promise of life and safety to his trusting patients.

CONCLUSION.

In conclusion, let me add that there are many inconveniences during gestation that are peculiar to each subject that demand recognition according to the special want. There are evils that bear their impress upon maternity that should be discussed, but do not properly come within the scope of my paper. There are dangerous practices and crimes that rob women of their maternal feelings and make demons instead of mothers, and nearly all brought about by excessive child bearing. How often have we been appealed to by sick, withering and debilitated women who are dying from the rude blast of over-production beginning as it were, for a single crumb, but we turn a deaf ear or plead it the just fulfillment of a holy law. For the sake of humanity give them proper, wholesome advice and stop the rife crime of abortion.

# GYNÆCOLOGY—WHAT ITS PRACTICE SHOULD MEAN TO US.

By H. S. Lott, M.D., Salem, N. C.

In approaching this subject my mind reverts to one of my earliest teachers, Dr. Henry F. Campbell, and I have a clear-cut picture of the attitude of reverence in which he said on one occasion when beginning a lecture, "take the shoes from off thy feet, for 'tis Holy ground on which we tread." This is a truth, and the work should be sacred to all who undertake it.

Let us see what the term means. First—Gynæco—in composition, or "make up," a woman. Second—gynæcologia—or gynæcology—the doctrine of the *nature and diseases* of woman. Third—gynæcologist—one who devotes himself especially to, or is *well* acquainted with, the *nature and diseases of woman.* Thus is the word defined, and the definition embraces much. Do we always comprehend *how* much? In our work, and in our writings? For surely such comprehension is not only our duty, but an essential to success.

That this brings us face to face with a most complex and difficult feature I fully agree; for that men should *know* or even be *well acquainted with the nature* of woman is a possibility most remote, and I care not to take upon myself the task of dragging it from the shadow-land of doubt.

> "True to one word, and constant to one aim
> Let man's hard soul be stubborn as his frame;
> But leave sweet woman's mind and form at will
> To bend, and vary—and be graceful still."

However, the fact that we can not fully comprehend her *nature* should only awaken the ready sympathy and quick conception which will guide us in gaining her confideuce, and teach us to recognize the diseases peculiar to her sex and functions, for the relief of which she applies to us.

Having fully realized its magnitude, and comprehended its responsibilities, the next duty of the gynæcologist is to prepare himself for the special work for which he feels an elective affinity. And just here the question arises, what makes the specialist? What course of training is best to fit him for this high office among his fellows? I hold that it is not a course of training, *per se*, but a process of spontaneous evolution; my position being sustained by the fact that, while there are many in the race, only a few reach the goal of greatness, establishing in this, as in all contests, the survival of the fittest.

There are two courses of training, or schools, from which we get our specialists and teachers; one is short and bright and easy; the other, long and dark and hard.

The process of evolution of the first variety is something like this: college, hospital, duck pants, solutions, gum, specialist, professor. Yes, I at-

tended a surgical clinic at one of the largest hospitals connected with one of our largest universities, and nurses and assistants, even the one giving the anæsthetic, *all* chewed gum vigorously; they were certainly diligent in its pursuance—it must be an "extra." At another, a young man in the regulation uniform, puffed his cigarette with much evident enjoyment while making preparations in the operating room for the operator, who, much to my surprise, (although I *have* seen the like before), came in and scrubbed up, in the "solutions" of course, smoked a cigarette, toyed with his mustache, and handled about everything there was in the room preparatory to going into the abdominal cavity. This course of training supplies a large number of aseptic professors and pseudo-specialists, men who arrogate to themselves an exalted position among their fellows as being more perfect in some one branch, and fit teachers for students, or even graduates in medicine, before they have begun to comprehend the magnitude of the work they undertake, or its responsibilities. Like Hugo's great man, who was *not* great, they "mistake the foot-prints of a duck's feet in the sand for the radiance of the stars." They have not watched at the bed-side the progress of disease and how surely *all* organs in the body respond in quick, and ready sympathy to the *one* diseased, nor learned that things are not always what they seem, and that the organ or organs which give the alarm, and for the relief of which the patient applies, not *always*, in fact, seldom, are the one's needing a physician's care, or the surgeon's knife. These men stand up and tell a class of men who are going out all over the country to practice what they are taught, that," if a patient comes to you with a sore on his tongue—lose no time—its a cancer—get the *jack-knife.*" That the long, sharp tooth, which is the irritating *cause* of the sore, amounts to nothing. Such a man may be a good anatomist, a good *teacher* of anatomy, but that he should blend the two, and enter surgery's domain, and teach crude and alarming theories *because* of his profiency on the cadaver, is truly lamentable. This is a slight deviation, but it illustrates my point. 'Tis this school which furnishes the men who write lengthy articles on *diseases of the* "*adnexa*," giving "*my method*" for its relief; and the general practitioner, whom *they* never fail to disparage, seeing their victim after their "*method*" has been *tried*, finds a scar on the abdomen as broad as his hand and as ugly as a birth mark, with pelvic adhesions infinitum.

There is another class of men who come into the field of specialism through an entirely different school of training. These men, after graduating, have gone to work in the general practice of medicine, striving to do the best good to the greatest number; and after years of struggle and self sacrifice, studying, and striving to combat disease in its many kinds, and manifestations find, without knowing why, that in some one branch of practice, they are more successful than in others; that their diagnostic skill is greater, and the appropriate treatment more readily suggested to their minds; in short, they

feel the strength of genius, and are soon recognized as masters by their fellows, and by the world. Especially in the field of surgery, and the special branches of surgery, have such men been evolved.

Among those most prominent, I will mention the names of Drs. Sims, Batty, McGuire, Joseph Price, Emmet and Mr. Tate. These men have worked and taught, not for self-aggrandizement, but for very love of their work, feeling that they were masters, and with their every physical power, and mental talent directed to the relief of suffering woman. Their teaching is done with characteristic force and precision; it is thorough, and sound: and blended with the greatness of the surgeon you see and *feel* the kind heart and loyal soul of nature's nobleman; and while you bow in reverence to the skilled operator, there is something of the affectionate regard of the son to the father, and the awakening desire *to desire* to emulate so great a benefactor.

It is then hard earned experisnce, and keen and constant observation which best fit and entitle a man to the choice of a special field of labor; and he who has been most faithful in the discharge of his duties as a general practitioner is most likely to be both faithful and successful in any one branch of practice. While this is true in regard to all branches of medicine and surgery, it seems to me that it is especially essential for a gynæcologist to have been a general practitioner, this being the only field affording abundant opportunity of attending and studying her, "nature and diseases" in the "three eras of a woman's life," viz: maiden, wife and mother; each fraught with the dangers and casualties peculiar to her anatomical arrangement, and physiological functions. As the family physician, we know her in the first, and are consulted in regard to any malformation be it congenital or acquired which may need surgical interference. As she leaves the period of girlhood, and merges into that of womanhood, with the awakening into life of the generative organs which accompanies this transition, we are the friend and counselor through the many physical and nervous phenomena which arise, and the privilege is ours to help the child to become the woman in physical development as she becomes one in years, and to fit her for the duties and cares of womanhood. In the second era, that of the wife, it is the family physician who is consulted first in regard to any physical infirmity or malformation, or any disturbance of function which may indicate disease. And as the wife, through the period of expectancy and anxiety accompanying pregnancy, merges into motherhood with the initial pangs of labor, it is the obstetrician who is near, fully awake to the possible dangers of this crisis, upon the successful issue of which so much depends for his patient's future comfort and happiness. Childbirth is the fulfillment of a physiological function, and accomplished in the large majority of cases by natures forces, and without accident, but that it *is* attended with danger, and should always be in the hands of a skilled and

watchful attendant, is proven, beyond question, by the number of women suffering from some trouble which "dates from a confinement" and for the relief of which she applies to the gynæcologist.

The examination of patients is a feature in this special branch of practice which I believe is not as thorough as it should be. No man is infallible, but I firmly believe that many diagnostic errors which result in dissatisfaction and even disaster to the patient, and chagrin to the physician, might be avoided by a thorough and systematic investigation of each and every case, thus avoiding mistaking and treating the *result* for the *prime cause.* Of first importance, is a complete history of each case. Men, in active work, are in danger of omitting minute details of family history; but it is wrong; and just here is a fruitful source of error. "Like mother—like daughter," is a homely saying, but like many of the kind it is founded on truth, and the law of heredity is no small causative factor in the ills which come within the province of the gynæcologist. Having obtained as full a history of the case as is possible the next step is to make a physical examination, and this is most important of all, for a large number of patients apply for treatment upon whose testimony we can not absolutely depend; and we must acquire, and cultivate, the delicate sense of touch, and quick conception of abnormal conditions and relations of parts which will lead us surely, if slowly, to a correct diagnosis. Avoid complicated machinery in the way of chairs and tables for office work. The chair, especially, is an abomination. Almost every young practitioner is deluded into buying one, and, with few exceptions, he is always sorry for it, or *ought* to be, for your patient and yourself are ever ill at ease, feeling sure that the thing *will* tilt up, and not knowing just when. There is a table made to-day which is better, but even this has too much machinery, and a plain table or couch of a convenient height, padded, if you like, with a cushion or stool to step up on, is by far the most sensible contrivance. To avoid exposure of the patient should always be a first principle, and a large number of very thorough examinations can be made without the least exposure; but bear in mind that your full duty to your patient demands that you find out the cause of her suffering, and, as Mr. Tate has said, in obscure and difficult cases "do not sacrifice duty to sentiment," but use all means and methods of forming a correct opinion of the conditions existing.

Place the patient upon her back, protected by a sheet, and make palpation of the abdomen by passing the palmer surface of the hand over its entire surface, thus getting its general contour, determining the existence of lines indicating former pregnancy, projections or enlargements which may suggest intra-pelvic or abdominal growths, and localizing the points at which pain or tenderness are elicited. Having done this, proceed to an examination of the generative organs. The thighs should be flexed at almost a right angle with the body, to facilitate this procedure; the examiner stand at either the

side or the end of the table, as the extent of the examination makes necessary. First, examine the vulva, major and minor labia, as to hernia and other swelling, tenderness, excoriations or hyperæsthesia; then, introducing the middle and index fingers into the vaginal orifice, first note the hymen, ascertain whether present or absent; if present, the amplitude of the opening; if absent, try to ascertain if it has ever existed by the position of the carunculæ myrtiformes. Also the position and relations and condition of the urethral orifice should be noted. As the fingers pass further into the vagina take note of the clitoris and note carefully the condition of the vaginal walls and the vulvo-vaginal glands; as the fingers pass over the walls see that their relations are normal, above, below and laterally, and if they are of normal length. Having reached the os, note carefully any laceration, and its extent, whether the uterus is freely movable, and if not, where the adhesions exist; if it is of normal size and shape, and in proper position. A bimanual examination will aid you here, the palmer surface of the left hand pressing down above the pubis. This will also aid in finding out the condition of the tubes and ovaries, whether in normal position, and, by pressing well up on each side of the uterus, the presence of even a very small mass may be detected. It will very much aid in clearing up doubt as to the extent of adhesions to place the patient in Campbell's Genu-Pectoral position; admit air into the vagina by pulling back the perinæum and see if the organs recede with the abdominal viscera. A position on the left side, with a pillow placed between the knees, affords better opportunity of pulling back the perinæum and passing the fingers well up into Douglas' cul-de-sac, where, if prolapsed, you will be almost sure to find the left ovary. This also gives you better control of the vaginal walls for further investigation as to all of the organs. Also note the position and condition of the bladder and urethral canal, and their relations to the other pelvic organs. With the finger in the rectum, note the strength and resistance of the perinæum, is it intact, or has it been ruptured; note well in regard to a rectocele, a recto—or vesico-vaginal fistula, and, in short, gentlemen, *be thorough.* I might go on at a much greater length giving minute details of points that should always be borne in mind. However, it is not my wish to be tedious, only to impress upon your minds the importance both to your patient and yourself of being systematic and thorough in all examinations, and especially in this class of cases where so little can be seen and so much must be learned by the sense of touch. If you find it necessary to use the speculum, Sims' plain perineal retractor, used in the left lateral position, is, to my mind, by far the best; all bivalve and trivalve speculæ are complicated and unnecessary; besides, they are capable of injury by pinching the mucous membrane, and otherwise hurting the patient. The sound is sometimes of value, although I am disposed to believe that it is often a source of injury in the hands of unskilled or indifferent operators.

Having thus thoroughly availed himself of every possible source and means of investigation in examining his patient, the gynecologist should be able to make a diagnosis and either relieve his patient's mind as to any alarming condition, or state to her fairly and calmly the possibilities, and even the probabilities, for her future. Many women apply treatment in fear and trembling, who have been told that they had "the womb complaint," who have no trouble of the kind whatever; nevertheless, their lives have been miserable because of this false statement. I think the man who looks *wise* and *ominous*, and tells a woman that she has "womb trouble," without having thoroughly investigated and knowing what he says is true, is beneath contempt, and both unfit and unworthy to practice his profession; for that women are very sensitive in regard to any trouble of this nature, and prone to magnify even a simple trouble all practitioners know, and it should be our aim to relieve anxiety, not to augment it. I do not mean that we should make light of symptoms and complaints with which the patient comes, but we should weigh them well, remembering the sensitive nature with which we are dealing, and if we cannot dispel fears, do not deal in mystery, but be candid, both in explanation, if we must give one, and in prognosis.

Professor Munde says that "pain means nothing"—he "pays no heed to a woman's saying she has pain." Would to Heaven that he could be a woman for just one month, and have to menstruate through a uterus which had been haltered up by his favorite "Alexandrian operation!" I verily believe that he would change his opinion, and deem it necessary to do something more than "paint the side with a little iodine, and give her some electricity." He supplements this by saying: "Now, of course, gentlemen, you will have to keep this treatment up for some time," which is likely. A large class of patients come to us with symptoms altogether reflex, or sympathetic, due to a derangement of function. These patients constitute a large proportion of the gynecologist's work, and belong as truly to his domain as those needing operative procedure, for to practice gynecology does not, necessarily, mean that a man is "hunting for a laparotomy;" and it lies as much within his province to treat temporary ills, due to disturbance of function, as to be prepared to resort to operative interference when the condition demands it. Postural treatment, with rest and suitable tonics, will relieve a large number of these cases, not that I believe in drugging patients with medicine; to the contrary, I hold that *much medication is the armor of ignorance*, but medicines intelligently used help us much to effect a cure.

Another class of cases present themselves with conditions requiring minor procedures for their relief—such as deformities, congenital and acquired wounds, misplacements without adhesions, recent versions or flexions, cervical stenoses, etc. These will try our patience sorely, at times, but we must persevere; for I know that conditions of this class can often be relieved by

very simple methods, if properly applied, and with the co-operation of the patient. There is yet a third class of cases, some of which require not only the most profound knowledge of normal and diseased conditions in order to make a diagnosis, but also the highest degree of surgical skill and surgical wisdom in order to give relief. Mention of a few of the graver troubles, such as localized peritonitis, pus tubes, ovarian abscess, ovarian cyst, myoma, fibroid and ectopic gestation, will suffice to illustrate my meaning; these all demand surgical interference, and the more promptly and thoroughly the surgeon does his work the more gratifying will be the results, both to his patient and himself.

Treatment in gynecological, as in all branches of practice, medical and surgical, may be classified chiefly under three heads, namely, palliative, curative and operative. Palliative treatment applies to all cases which we cannot cure, having their origin in organic or constitutional disease, or some irremediable congenital deformity. These patients demand our tenderest care and warmest sympathy, for, while their malady baffles our skill, the privilege is ours to relieve, to some extent, their sufferings and help them to bear the burden of a life filled, perhaps, with disappointed hopes—I say privilege, for—

> "Have we done, when we leave the bruised heart,
> If we bind the bruised bone?"

And was the domain of the physician confined to pills and the lancet, his would be but a sorry life and his work a meager one, indeed.

The curative treatment applies, I am glad to say, to a very large class of patients who apply to us, and whom we always hail with pleasure; for if we do our work intelligently and well, we may feel confident of its successful result, and present our bill with a clear conscience and a peremptory demand, if need be, for its payment; and, by the way, patients who pay well, make mighty satisfactory patients, anyway. The cases for operative treatment bring us to a point in our subject which is, in all probability, of more universal interest than either of the other classes of patients, as these are sure to come into the hands of the gynecologist, the term being more generally accepted, both by the profession and the laity, as applying to the surgical treatment which is necessary for the relief of many of the troubles peculiar to women. That this is best, and as it should be, is obvious, for the very good reason that a subject, or a branch of a subject, which receives the most scientific interest and investigation is sure to be developed to the highest degree of excellence, and I feel that I can say, without fear of disapproval, that the advance in abdominal, pelvic and plastic surgery has been infinitely greater than in any other field—greater in point of surgical skill and methods, and greater in point of prolonging life and relieving suffering. The surgeon of to-day who is properly skilled and properly equipped, has no fear of en-

tering the abdominal cavity for the removal of a very small cyst or abcess, or even to break up inflammatory adhesions; which, until recent date, have been deemed sacred. In the field of plastic surgery, the work and results are no less progressive; and the procedures which received their first impetus in this country from Dr. Marion Sims, have been followed up and perfected by his successors, until the relief and comfort of a large class of most unfortunate sufferers are almost a certainty. I can not go on, just here, without laying further stress on the importance of diagnosis, and prompt, and decisive surgical interference in extra-uterine pregnancy; for I believe that this subject is given far too little thought by the general practitioner, and that many women die from rupture and hæmorrhage, who might be saved; for this is a clear case of death from hæmorrhage, and why should not the man who recognizes the condition, and is bold enough to open the abdominal cavity, and tie the vessel, be able to save his patient's life? Therefore, if you have a case with a history leading you to suspect pregnancy, and are called to the patient hurriedly, and find a set of symptoms like this: sudden pain, anxious countenance, acute anemia and collapse—your duty is clear. Dr. Joseph Price, who impressed upon me the importance of this subject, says: "As well ask, should we operate for stab wound of the femoral artery, as to ask, should we operate in collapse from ruptured tubal pregnancy."

As to operators, and methods of operating, there is an abundance of both. In New York and Philadelphia, where I spent three months of the past winter, neither material nor workmen are wanting: and while I saw a vast amount of good surgery, I must confess that I was much disappointed in some of the work that I saw. Men, under the cloak of professors, doing and teaching methods and precepts of no earthly value to either physician or patient. For instance, I spent an afternoon in the operating room of one of the largest hospitals of New York city, where a professor of quite extensive writing, and years of teaching, dressed in the most absurd costume of awkward wooden shoes, immense rubber apron, gauze shirt and flimsy pants, devoted the entire afternoon to scraping out the helpless and long suffering uterus with the curette, stuffing in a strip of iodoform gauze, and finally, just to complete his elaborate surgical treatment—for *sterility* mind you—halter up the inoffensive organ by shortening the round ligaments. When I asked him if these women conceived after his treatment, he said, hurriedly, "well, he couldn't say—of course, he could not see inside." What results he expected in cases of this type, with posible pus tubes, from this useless and irrational procedure, I can not guess.

But, some of them are bound to curette, it's fashionable, and must be done; and, if a woman happens into a clinic on curetting day, she's sure to get all the healthy lining of her uterus scraped out, and a little piece of gauze stuffed in. I even saw a professor stand by and permit a house surgeon to

curette a *pregnant womb*; he said it was pregnant before the scraping—I will not grace it with the name of operation—and his diagnosis was proven correct by the villi scraped out. This was done before a class of graduates, teaching them what to do for their patients when they got home. The curette, except in rare instances, for the removal of debris, is not only a useless instrument, but one capable of much injury to a delicate organ. When you look wise, and curette, you have done nothing that will benefit your patient in the least, and have *created* a possible nidus for a future fibroid.

As to authority, you can get plenty of it for any kind of work you choose to do, or method you choose to adopt. At the Woman's Hospital you may see Dr. Emmet do his plastic work on the anterior and posterior vaginal walls with the precision of a master and the skill of an artist, making parts which have disappeared through injury or have even never existed, and impressing on his visitors, with no thought of time or trouble, that this work must be done with method and mechanical skill in order to be successful. Or, at Bellevue, you may see a professor of some note run a circular puckering string into a torn perinæum and then turning to the class of students say," gentlemen one method is as good as another." This man is a clever gentleman and a good compiler of Obstetrical literature but his teachings in plastic surgery are not thorough, to say the least of them.

They are doing a vast deal of the anterior vaginal fixation now, for retroflexion. Quite a happy method it is of diverting the poor woman's mind from the old set of symptoms of backache, constipation, etc., until she has become familiar with the new, which are really more attractive, because more distressing, viz: vesical irritability, painful micturition and no telling what else at the menstrual period or in case of conception. I am patiently waiting to hear of their dividing the symphysis, placing the fundus between, and expecting bony union.

In abdominal and pelvic surgery, one set of men will puncture an abscess or remove a pus tube through the vaginal wall, saying it leaves no scar on the abdomen, *not* saying what number of pus cavities or other diseased condition of pelvic organs it leaves behind, which it is beyond the power of diagnostic skill to define and localize clearly, when working through the vagina. And yet another class will operate from above, very skilfully and thoroughly, and then close the primary incision with abdominal embroidery: quite fancy and beautiful, but three tiers of stitches, peritoneal, muscular, and integumentary, with two pockets for the accumulation of fluids, are not promising, to my mind, for a firm cicatrix; and clinical observations and examinations proved to me that this method was not the best, and did often have a pouting, discharging sinus, as a post operative sequel.

It was my privilege recently to spend six weeks with Dr. Joseph Price at his private hospital in Philadelphia. Each morning was spent in the operat-

ing room, and the afternoons at his clinic for the diseases of women. His methods are so simple that you scarcely realize that they are methods, and yet, so perfect in detail and successful in result, that you must see through all the master, as the skilled surgeon. His teaching is direct from the specimen in the basin, which, after each operation (and, with few exceptions, there were a number each morning) he places upon the table, and in a manner which holds you and impresses his words indellibly upon your memory, gives the pathology, diagnosis, prognosis and treatment of each. His antisepsis and asepsis are cleanliness, and it is practiced in every detail. I never once saw a "solution" of any kind in his house, nor did I ever see a drop of pus *after* an operation, although I have seen pints of it flow from the abdominal cavity through the median incision *during* the operation. He uses boiled water, and an abundance of it, for self, nurses, instruments and patient: to be clean in every detail is a principle with him and no detail is omitted; and as the work is in progress, the co-operation of assistant and nurses is so perfect that it seems as if one brain and one pair of hands were doing the whole. He makes the abdominal section exclusively, save for some few cases of hysterectomy; holding that through the abdominal incision the work can be done more thoroughly and in a more surgical manner, that he can better thus remove diseased parts, repair injured ones, and thoroughly cleanse the whole; and his results, as I watched them day after day in the after treatment of cases in the hospital, and as I found them in the clinic in examining women upon whom he had operated years before, certainly proved the correctness of his theory and established the strength of his position. In closing the abdominal incision he passes the needle through and through, giving the stitch a concavity towards the incision, so that when it is tightened and slightly drawn it approximates perfectly, peritoneum to peritoneum, muscle to muscle, and integument to integument; the union is complete and the cicatrix insignificant. Thus, in all of his work, be it abdominal section or plastic surgery, his methods and results are the same; and it amused me very much to hear men, in the midst of their attempts at surgery, disparage this man with whom they could not possibly cope.

And now gentlemen, out of this chaos, can you create order and get some food for thought. My hope and aim have been to make you think and the subject is worthy of it. If you have a choice for any special branch of your profession, and I believe in specialism in that it makes each branch more perfect, select a man who is a master, both in teaching and in surgical skill, and study him well, thus systematizing your thoughts and talents, and learning to concentrate them upon one subject and one hope: the subject being the special work you choose to undertake; and the hope being, in the words of my venerable and much beloved preceptor, Dr. Joseph A. Eve, "to do good rather than to become great." And,

"The man who seeks one thing in life, and but one,
May hope to achieve it before life is done;
But he who seeks all things, wherever he goes,
Only reaps, from the hopes which around him he sows,
A harvest of barren regrets."

DISCUSSION.

Dr. Bahnson:—At the request of my friend, Dr. Lott, I rise to criticise his paper. I believe he knew my friendship for him would disarm my criticism. Indeed, I can only thank him sincerely for his very concise and thorough treatment of a most important subject. In the main, I heartily agree with him, but as to one or two points I would like, not to object, but rather to explain what I believe. As to the use of the sound, I think Dr. Lott's wholesale condemnation gives an erroneous impression. To me the sound is merely an elongation of the finger, and I confess that, without its aid, I do not know how to determine the length of the uterine cavity, the extent and character of adhesions, flexions, malpositions, cervical stenosis, etc. If the sound is used only through the speculum, as is ordinarily taught in text-books, it is very liable to do harm. I never use it in that way, but, not unfrequently, in cases of acute flexions, employ it as a guide for the introduction of the speculum. Because of its too frequent abuse, I cannot agree to its absolute condemnation. Nor am I willing to discard the curette, because many use it injudiciously. In those cases of proliferation of the endometrium called, by Thomas, *fungoid*, it affords safe and permanent relief.

While I agree that thoroughness in any direction is commendable, I cannot believe that such thoroughness of examination as Dr. Lott describes is necessary or advisable in even a majority of cases. I can, perhaps, best express my idea of examinations and gynæcological operations in one short sentence, viz: The man who has acquired skill and reputation by examinations and operations on other men's wives or sisters or daughters, such as, under similar circumstances, he would be unwilling to have his own wife or sister or daughter undergo, is no physician, but an infernal scoundrel.

Dr. Poole:—To contradict anything Dr. Bahnson says is treading upon dangerous ground, but I beg to differ with that gentleman as regards the use of the sound.

I believe that the successful use of the sound, while the speculum is in use, depends largely upon the kind of instrument we use. In my experience the sound can always be satisfactorily used with Erich's speculum. With this instrument the uterus can be fixed in any position and kept so indefinitely. It is a modification of the Sims speculum, is self-retaining, and, with this instrument, I have no trouble in using the sound.

In regard to curetting, I know a great deal too much of it has been done.

I believe many cases have been injured by wholesale curetting that might have recovered without it. I remember a case of metrorrhagia that passed into my hands from another physician. She had taken all the remedies suggested for this purpose, so I decided upon this course of treatment before curetting. I injected ten grains of fused nitrate of silver up to the fundus and left it there. In a few days a small tumor came away which had been attached by a small pedicle. Hemorrhage was at once checked, the patient recovered, and has since borne children. You may say I did not examine thoroughly. I did not dilate the uterus to find out what was the cause of the hemorrhage, but the patient is well without curetting, and I doubt if she would have done so well with it.

Dr. Flippin:—I would like to say a word in regard to giving our patients pain. I do not think it right to give unnecessary pain in our examinations.

In young, unmarried patients the introduction of two fingers into the vagina will often cause considerable pain, and unnecessary pain; for, if we have an educated finger, we can map out the whole of the vagina and can feel any lacerations, malpositions of the uterus, or prolapsed ovaries, or neoplasms. In fact, with one educated finger, we can make equally as satisfactory examination as with two. In regard to feeling the normal ovaries, I would say that any one who claims to be able to feel the normal ovaries in all other cases, and who examines with the palmer surface of the finger up, I don't believe him. For in examining the uterus in normal position, with the palmar surface of the finger up, you can hardly touch the neck of the uterus. If you are going to examine for an ovary, my advice is to introduce the finger with the palmar surface down. Then press forward hard, as if you meant to push the woman from the table, you will now find that your finger is from an inch to an inch and a half further in, than if you had examined with the palmer surface up. This maneuver causes no pain whatever to the patient. And now with your finger an inch and a half further up, and the disengaged hand upon the abdomen, to rotate the parts between the internal and external hand, the clouds of obscurity will begin to disappear, and our diagnosis clear up.

Very often, in obscure cases, we are unable to arrive at a correct diagnosis, except by excluding one disease from another, until, at last, our diagnosis is reached.

I would like to impress upon you this one point—in examining for the ovary, examine with the palmar surface of the finger down, otherwise you will be unable to map out more than one normal ovary in ten.

One other point in the treatment of uterine diseases, and that is the vaginal douche.

We all use the vaginal douche, but the way in which we use it means a great deal to our patients: for, if used right, it will prove a blessing, but, if used wrong it may prove a curse. Ask most patients if they have used the hot

vaginal douche, they will say "yes, but it does no good, in fact, it makes us worse." Ask how they use it and they will say "sitting down over the vessel containing the hot water." How long do you use it? "Ten minutes."

Now have her change the program, and take the douche flat on her back, using from 1 to 2 gallons of water at the temperature of 115 Fr. for 30 minutes by the clock; allowing the water to flow from a fountain syringe very slow. You will soon find the leucorrhœa and old adhesion, disappearing. You will also find this more satisfactory than applying nitrate of silver.

Dr. Gwathney:—I have enjoyed Dr. Lott's paper very much. Unquestionably, the diagnosis is the most important thing in gynæcology. As for his methods of diagnosis, they are very good. There are only one or two suggestions which I should like to add, and which, in all probability, he omitted, for fear of making his paper too long. One is in the dorsal position; he flexes the limbs, and gives no position to the feet. If the feet are very widely separated, the muscles of the thigh and the abdomen are more liable to be tense; if put too far in, it has, practically, the same effect. The feet should be on a line with the thigh. For examination by bimanual method, I must say that we can feel the ovaries. I have been blessed with long fingers, and I should esteem myself a very poor diagnostician, if I could not make out a better proportion than one to ten, especially, if the woman had a moderate degree of thickness of abdominal wall. Two fingers are, unquestionably, better than one, and I am sure you can get up a greater distance with two fingers than with one. In a variety of cases, of course, it is not allowable to palpate with but one finger, as in virgins, nor is it as hard to reach the uterus and appendages with one finger as in the case of a multiparous woman. In many cases where the diagnosis is hard and painful, where it is incomplete, and a man is not thoroughly satisfied, I believe that anæsthesia is justifiable and indispensable, but particularly so in virgins. Examination also can be greatly assisted by the rectal touch, and I will say here, that the doctor omitted the most important thing in the preparation of a case for examination, a clean rectum and an empty bladder. I think that is especially important. I have seen good men fail on account of a full rectum. As for the sound, I cannot agree with the doctor who followed Dr. Lott that introduction on the finger is best. It is more difficult, and, as a rule, hard to introduce on one finger. It is usually painful. I use a moderately soft or silver sound, easily flexible, with a moderately large head or end, probe pointed. I have three sizes of sounds, and use them as large as the case will accommodate. By using a double curve, one for the uterus and one for the speculum, you can almost always introduce the sound through the Sims or even bivalve speculum, without any trouble. Of course, if any obstruction should be met with, the sound should be bent by manipulation until after you have found the uterine opening, and the distance and length of the canal. As for diagnostic means (I, of course

exclude all possibilities of pregnancy before passing the sound), it is a very great aid. Before introducing the sound all precautions should be taken. See that the vagina is clean, and, in cases of endo-metritis I also clean out the cervical canal. I have never seen any bad results where these precautions were taken. The sound gives you the depth and the direction of the canal. Many times you can find some fibers in the internal os, of some strength, which may be causing trouble, and you can find out the readiness with which the uterus bleeds. Taken all in all, I should feel very much at sea with the sound taken entirely away from me.

It seems especially valuable to train both hands for use in vaginal touch, as the hand corresponding to the side can more easily detect diseased appendages on that side.

As to curetting, I think the doctor has created, possibly, a wrong impression. In removing the mucous membrane of the uterus, he would seem to indicate that it was removed for all time. I do not agree with him at all; for, in such procedure, the mucous membrane is replaced, and replaced healthily where it has been scraped off. Curetting is, certainly, a means of relief in many cases. There is just one thing I would like to say in closing, and that is, the trouble most men meet with in long continuation of treatment of symptoms of patients that have gone through certain procedures and have shown that they were relieved. If your patient comes to you for every little symptom, and you treat her for it accordingly, you will find that you will make a patient who will last forever. I wish to impress on you that I have seen, and know of my own knowledge, that it is wise to stop gynæcological treatment unless you are sure that you are doing good, and stop it any way, as soon as you can, allowing nature time to recover herself.

Dr. Lott:—I think the use of the curette imperative in these cases, and the packing of iodoform gauze. A combination of these two brings about a better result than any other treatment. His reference to the danger of the curette I do not think is a matter of objection. We all know that, in the hands of an incompetent man, it is dangerous. We take it for granted that all of our brothers are competent operators, and do not think that there is any danger at all in the use of the curette.

# ENDO-METRITIS.

By John G. Blount, M.D., Washington, N. C.

As chairman of your section on gynæcology, I feel constrained, in a measure, to depart from the custom usual on such occasions, and instead of a resume of the advances made during the year, which would of necessity be cursory and only serve to direct your attention to them, I have chosen endometritis. At this period of the history of gynæcology, it is well that we stop to consider some of the minor gynæcological procedures, for by them many of the larger operations are avoided, and many women, who would be miserable and unhappy remain in that condition of contentment and comfort that an All Wise Providence intended they should remain. In this latter half of the last decade of the nineteenth century, I very much fear that we are neglecting the little things especially in gynæcology, "like the Indians possessed of the diamond all saw, and yet none valued," and so it appears to be with us. The aim and ambition of every gynæcologist seems now to be "how many hysterectomies, how many oophorectomies, and how many laparotomies can I do, and with how slight a mortality." I am not one of those who would have my remarks seem even to imply "that gynæcology is a sort of illegitimate appendage of medicine, which should be choked and strangled out of existence as a monster which has suddenly arisen to unsex and destroy lovely woman, whereas in truth, ths science which deals with the diseases of women is of the higher branches of surgery." In all other branches this is an age distinctly of preventive medicine, and with cariolanus: "We should find out the cause of this effect, or rather say the cause of this defect, for this effect defective comes by cause." Were this maxim to be adopted and acted upon as to pelvic troubles, many a woman would be saved untold agony, many a hysterectomy would be avoided, and many a leucorrhœa relieved. Review with me for one moment, if you please, the anatomy of the uterine mucosa and see how easily that surface can become infected and if allowed to continue, that same infection be transmitted through the uterine walls and through the fallopian tubes. In the muscular structure of the uterus transverse and longitudinal muscular fibres interlace in every direction and in their meshes are found the vessels of the organ, circular vessels containing wide lymphatic spaces. The mucous membrane of the body is smooth, soft and measures about $\frac{1}{25}$ of an inch in diameter. A magnifying glass shows its surface presenting a perforated appearance due to the openings of the uterine glands. These glands are of the tubular variety, have a sinuous course, and often divided below into two or three blind extremities. They extend through the entire thickness of the uterine mucous membrane and in rare instances into the muscular structure. They have a delicate basement membrane composed of spindle-shaped cells which dove-tail into one another.

They are lined by cylindrical cells which possess ciliæ and these ciliæ produce a current towards the Fallopian tubes. The mucous membrane has a lymphatic system of its own, the muscular structure has the same, and the serous coat has one of its own. The lymph, therefore, passes directly from the mucous membrane lymph spaces into the spaces and vessels of those of the muscular structure, and from here to the serous coat. From here it passes to the large tubes in the broad ligament. A fluid slightly viscid, in reaction alkaline, milky or cloudy and under normal conditions free from pathogenic germs and hardly noticeable in amount, is secreted by these uterine follicles. The uterine mucous membrane is not unlike other mucous membrane in that it is liable to inflammatory affections, and endo-metritis is an inflammatory affection of the mucous glands. The exageration of the function of the uterine glands accounts for the uterine leucorrhœa and this is one of the most constant and distressing symptoms. Upon post-mortem examination the uterine cavity is enlarged and its membrane is lighter in color, thickened, soft and everywhere on its surface granulations are to be found.

If the case is an old chronic one many of the utricular glands are obliterated, or atrophy having taken place at their mouths only their secretions are retained and they undergo cystic distention. After a time the mucous membrane is replaced by a thin layer of connective tissue and not by cylindrical or ciliated epithelium. The enlargement of the uterine cavity marks chronic cases and will not be found in those of recent origin. It is more than probable, too, that in cases of recent origin the pathological appearances as above described would not be found to exist, but, in their place a thickened, congested and florid appearance would present itself. Because of manifold vicissitudes through which a female has to pass this uterine mucosa is peculiarly susceptible to inflammation and according to etiology this inflammation is divided into catarrhal, septic, specific, and senile. Catarrhal or simple endo-metritis is of rather frequent occurrence and occurs independently of septic influence. It occurs often in virgins where there has been no possibility of septic infection. It is usually found associated with those lesions which are characterised by a general enlargement of the uterus as in retroposition, fibroids, subinvolution etc.: or, as described in the pathological anatomy, glandular hypertrophy may occur producing mucous polypi. In this catarrhal endo-metritis of the hypertrophic form the vessels are much enlarged and multiplied, the lymph spaces undergo the same enlargement and multiplication. The utricular follicles become many branched and tortuous and the epithelium is thickened. This thickened epithelium is easily brushed off, causing bleeding. The whole process is one of increased growth. When the connective tissue increases correspondingly with glandular hypertrophy the membrane is said to undergo fungoid degeneration. The atten-

tion of the patient is first attracted by a profuse leucorrhœa of a thin muco-purulent or muco-serous character. At times and especially after menstruation it is brownish or rust colored, and it may be this is the first thing to attract the attention of the patient. Almost always menstruation is interfered with, menorrhagia and metrorrhagia being present. Pain in the back, radiating to the groins and hypogastrium, is almost invariably met with and sometimes there is a burning sensation over the symphysis pubis. Hysterical symptoms are rarely or never wanting. The patient is saddened and dejected, weeping upon the slightest provocation. Usually they manifest great indifference as to the surroundings and cerebration, as a rule, is a thing apart from these patients. Meteorism and constipation harass the patient and annoy the physician beyond measure. The fact that sterility is not an infrequent accompaniment of this affection brings many of these cases to the notice of the physician. Of the physical signs the probe finds the uterus increased in length and its cavity more capacious; more discomfort is created by it than in a healthy uterus, and the endo-metritum sho s a tendency to bleed under such an examination. By bimanual palpation the uterine body will usually be found with its sensitiveness increased.

*Septic endo-metritis*—Taking into consideration the uses and abuses to which the uterus is subjected it is not surprising that we have a variety of endo-metritis septic in character. In the vagina and cervix are to be found staphylococci, streptococci and many other pathogenic and non pathogenic micro-organisms ready at a moment's notice to set upinfla mmatory trouble, provided they find a suitable habitat or fertile soil. While it occurs at any age and under all conditions it is predisposed to by the recurring menstrual congestions, by abortions, miscarriages, and labor at term. We see it most often after abortions and miscarriages. We find pathologically an inflamed or intensely engorged endo-metrium with a large denuded surface at the site of the placental detachment, thus affording ready means of ingress for organisms into the uterus. The whole endo-metrium is much softened, shreds of the placenta and decidua partially or wh lly decomposed are found as a result of the pus formation. This pus may remain in the uterine cavity or escape slowly through the still patulous os. On being called, usually twenty-four to ninety-six hours after the infection, there is a chill followed by a rise of temperature to a variable degree, the pulse increased in frequency and excitable. Pain is localized in the body of the uterus and on vaginal examination there is found exuding from the gaping os a stringy pus greenish in character and with the mouth of the uterus eroded. The organ itself need not of necessity be much enlarged.

*Senile endo-metritis:*—In old women there is a variety of endo-metritis occuring long after the climacteric and, as a result of this endo-metritis, watery or creamy pus is secreted which often gives rise to a most constant and dis-

tressing pruritus. There is another kind of endo-metritis about which in the text-books little has been written. It has been variously styled "senile endo-metritis," "fetid endo-metritis of old women." The affection might be easily mistaken for cancer. The symptoms as usually found are vaginal irritation, protracted or constant flow of watery pus, emaciation, and cachectic appearance of skin. The length of time that it persists, however, precludes the possibility of malignancy. The discharge may be watery or semi-purulent, scant or profuse, and as a result of the irritant properties the vagina and vulva may suffer. Often the discharge has a very offensive odor, at times quite as offensive as that of cancer. Pain in the abdomen and back, together with increasing weakness and emaciation, are some of the accompaniments. In many cases the organ is retro-flexed and bound down by adhesions and because of this malposition improper drainage is secured and the secretions are retained. Because of this retention and improper drainage micro-organisms creep in and infect this local depot and a slow form of sepsis is induced.

The microscope gives evidence to the effect that the process is one of chronic inflammation, and is, therefore, of value in differentiating this affection from cancer. Cancerous disease of body of uterus is much less frequent than that of cervix. Again one of the chief characteristics of cancer is hemorrhage, while in fetid endo-metritis hemorrhage is rare though the discharge may sometimes be tinged with blood. Again, fixation is never so marked as in malignancy. Lastly, is the length of time from its inception, thereby contradicting all idea of malignancy.

*Treatment:*—In no branch of gynæcology has treatment made such rapid improvement as in endo-metritis. In the catarrhal form the etiological factor should be sought out and removed. If sexual intercourse is in excess the marital relations should be lessened or interdicted and the abused organ allowed rest. If subinvolution is present nothing will be found to act more quickly than the internal application of iodine or iodine and carbolic acid together with the internal administration of iron, ergot, nux vomica and glycerine. In these cases of catarrhal endo-metritis change of environment together with the internal administration of ferruginous tonics, avoidance of habits of indolence and luxury suffice. In catarrhal endo-metritis of the hypertrophic form where the utricular glands have undergone cystic distention and mucous polypi are everywhere on its surface and the mucous membrane has undergone fungoid degeneration, nothing is of so much avail as gauze packing together with dilation and drainage or even the use of the curette. Now I am aware that many to-day prefer the application of chloride of zinc, chromic acid or nitrate of silver; but to say the least they are unscientific and barbarous. Barbarous in that the pain that they inflict is agonizing and unscientific in that a simple hypertrophic endo-metritis is con-

verted into a septic endo-metritis and the eschar is gotten rid of by suppuration. Applications to the uterine cavity, cauterization of the uterine mucosa, the application of medicated ointments, and injections into the uterine cavity have to a certain extent fallen into disuse and the curette has gradually supplanted them. Since Recamier first invented the curette it has gained in favor until to-day it is the treatment par excellence for many forms of endo metritis. The dangers that beset its use are largely chimerical, provided it is done on the most approved plan. If we will only remember the proximity of the peritoneum and keep clearly in mind the anatomy of the pelvic organs and the ease with which infection can travel through the lymphatics and fallopian tubes we will avoid some of the shoals and quicksands on which we are apt to founder. The greatest danger of curettage is that it is not usually done under the strictest aseptic precautions. Soiled towels. dirty fingers, and unasepticized instruments have been the greatest draw backs to curettage, for by them many failures and ill successes have been reported. In curetting the instruments should be asepticized, the hands and towels treated in like manner, and the vagina scrubbed with soap and water and lastly with a 10 per cent. creolin solution. In short, everything should be prepared as though going into the peritoneal cavity. Soon the tactile sense is sufficiently developed and with these two factors, tactile sense and cleanliness adopted, the older methods of cauterization and injection would be laid in the background and so n any failures and ill successes would not be reported. Bossi shows that "strong caustics first destroy the endo-metrium which is reproduced but in a morbid form. The orifices of the uterine tubular glands become obliterated, and these glands undergo cystic degenera-ion. This is followed by an atrophy or hypertrophy of the endo-metrium. When the endo-metrium is treated by means of a curette no such changes ever occur:" After curettage when repair begins, the uterus being relieved of the septic process the new leucocytes and plasma-cells are not forced to exercise their phagocytic property by battling with the pathogenic germs, but the plasma cells have a healthy pabulum, and devote their entire energy to the work of regeneration. It is not only non-suppurating repair, it is histological growth."

As I said, therefore, the proper treatment for the hypertrophic form, where the mucous membrane has undergone fungoid degeneration and the glands cystic distention, is curettage and drainage, but curettage and drainage under the strictest aseptic precautions.

*Septic Endo-metritis:*—This condition is the one we are most often called upon to treat. Upon its proper and intelligent management depends the present and future welfare and happiness of the patient.

The man who deludes himself into the belief that the condition is temporary, or lulls himself into a false security by the use of vaginal baths, anti-

pyretics and anodynes will have many sins of omission to answer for at the final day and many miserable, unhappy suffering females to follow in his wake and beset his footsteps. If he will only call to mind that the regular sequence is endo-metritis, metritis, cellulitis, and peritonitis he must be convinced that the thing to do is to act quickly, to act thoroughly, and to act intelligently. The same rule that governs the surgical circles elsewhere governs here, viz: wherever pus is found evacuate it. The proper treatment, therefore, to be followed out on rational grounds and as evidenced by the practice of every up-to-date gynæcologist, is first, under the strictest aseptic precautions to dilate the cervical canal, preferably by means of rapid dilation for gradual dilation causes a greater number of abrasions and in addition the dilation obtained is not sufficient to overcome the action of the cervical sympathetic system upon which the uterine colic depends. Again with gradual dilation the length of time is greater and time is without price. After the cervix is thoroughly dilated, the curette, and in unskilled hands that midway between sharp and dull, thoroughly goes over the uterine mucosa? The cavity is then irrigated and packed with iodoform gauze.

This gauze should be removed after twenty-four to forty-eight hours and other gauze inserted, though this second insertion should be as rigidly aseptic as the first curettage. For in this way this granulated surface may be reinfected and further septic trouble be set up. After every subsequent removal of dressings the uterus should be irrigated, and the repacking done under the strictest aseptic precautions. Another important factor is that the os be kept dilated and patulous, for by it proper drainage is secured and without proper drainage the secretions accumulate and are retained, and as a consequence become vitiated and irritating, which keeps up the inflammation. If after curettage subsequent hemorrhages are annoying together with uterine enlargement the internal application of iodine is of service. If fetid endo-metritis the condition presented is one of chronic inflammation of the endo-metrium of long standing. Microscopically there is said to be an absence of the normal epithelium lining, the uterine cavity and proliferation of irregular squamous epithelial cells heaped upon each other, which show a granular degeneration going on in them." The treatment, therefore, on rational grounds, is thorough dilation and curettage under the strictest aseptic precautions. One must be cautious, furthermore, because of the tenderness and lowered vitality of the organ and the dilation and curettage should be done more carefully on account of it. With gonorrhœal or specific endometritis I have had but little to do, but rationally it would be treated as septic endo-metritis, though when seen sufficiently early curettage may not be necessary. But let me repeat, and repetition should not be tiresome, that, in all operations on the uterine mucosa, *all* depends upon securing proper drainage and rigid asepsis.

# "IS THERE IN NORTH CAROLINA A CONTINUED FEVER WHICH IS NEITHER TYPHOID NOR MALARIAL?"*

By H. A. Royster, A. B., M.D., Raleigh, N. C.

The subject which I have chosen for debate on this occasion was suggested by a discussion, having a similar title, before the Raleigh Academy of Medicine, at its regular meeting in August, 1895. In that discussion the question had only a local significance, being confined to the City of Raleigh and vicinity. On account of its great importance, I have deemed it profitable to submit the query to this larger body of North Carolina's representative medical men, thus giving it a wider range of application, and obtaining lessons of experience from all parts of the State. My own limited experience and my short residence here, would not justify me in expressing any dogmatic opinion concerning this question. My object in bringing it before you is rather to direct attention to the points at issue, especially in the light of modern research, and to foster the interest already manifested.

Whether there is or is not in North Carolina a specific continued fever which is not typhoid and not malarial, there *is* a fever which resembles both, but about which there is a difference of opinion. You have all seen it—a continued fever, moderately severe in type, of two to four weeks' duration, characterized by morning remissions or intermissions, uninfluenced in its general course by the action of quinine, and yet presenting none of the distinguishing features of typhoid fever. The history is usually vague; there may be a period of malaise lasting a week or two, or the attack may come on suddenly with a chill during apparently perfect health. The associated symptoms of the developed disease are not distinctive. The mental condition is unaffected; catarrhal processes form no part of the disorder; the abdominal symptoms of typhoid are absent; no typical rash appears; as a rule, there are no distinct chills, though chilly sensations may show themselves. The subjective symptoms are merely those of the fever itself.

Now to the question before us: What is this fever? Is it a distinct entity, a specific disease? or is it an atypical manifestation of either malarial or typhoid fever? We might conclude it was malarial, but its duration is not shortened by quinine, the acknowledged therapeutic test for this infection; we might call it typhoid, but the specific elements of that disease are not present. There are three conclusions to which we may come: that it is either (1) a malarial fever, unmodified by the administration of quinine; (2) a mild typhoid fever; or (3) a separate and distinct disease hitherto unrecognized. The first conclusion is justified by those who do not accept quinine as the infallible test for malarial fevers. Personally, I have never believed that all continued fevers which yielded to quinine were malarial; nor that those which refused to respond to its influence necessarily did not

partake of malarial characteristics. The fact that there occur numbers of cases of typhoid fever so mild as not to be recognized during life, but revealed in the intestinal lesions on the autopsy table, shows that there is some ground for the second alternative. Long experience and extensive observation have led many to accept the last proposition, viz: that this affection which I have tried to describe is a specific fever, neither typhoid nor malarial.

So far as my knowledge goes, these cases have not been thoroughly investigated or subjected to scientific inquiry. They are rarely fatal, and, therefore, have not been submitted to careful *post mortem* examinations. Clinical experience has furnished the only real basis for differential diagnosis. No systematic study of the blood in these cases has been made in North Carolina, so far as I know. I had hoped in this connection to present the results of some original investigations which I began during the latter part of the summer, upon my arrival in Raleigh, but which I was prevented from completing by the disappearance of the proper material with the approach of autumn and the cold weather. It is my intention to pursue these investigations, as far as I can, and to report at some future time; so that, this may be regarded .s a preliminary paper. The number of examinations made was not sufficiently large to serve as the ground-work for any positive statements. Enough was done, however, to prove conclusively to my mind that this whole question of continued fevers cannot be settled by clinical observation alone. In former times it was considered wise and philosophical to present long arguments and dissertations on medical matters; but now-a-days a simple little scientific fact will floor all argument, all dissertation. Every method which modern science can afford must be brought to our aid before we can be justified in giving an opinion, much less in deciding absolutely upon any question. I know that there are men to-day who assert that they are able from clinical symptoms to diagnosticate these cases of fever accurately, call them either one thing or the other, off-hand, and satisfying perfectly their own minds. Thus far, in my brief career, this power of tuition has never been granted me. Many of these obscure cases of continued fever have puzzled me, and, in regard to some of them, I have remained still in doubt.

It is now generally conceded, I believe, that the exciting cause of malarial fever is the *plasmodium malariæ*, an animal organism, discovered by Laveran in 1880. True, some observers have never admitted this fact. But the number of those who have studied and verified the Frenchman's theory by actual demonstration is sufficiently large and authoritative to give weight to the affirmative side of the question. It will not be necessary here to review the subject of malarial pathology from its real beginning up to the present time. For our immediate purposes it *is* necessary to know that the plasmo-

dium inhabits the blood of a patient affected with malarial fever and that its detection by the microscope confirms the diagnosis beyond controversy. If we can determine the existence of the plasmodium of malaria in the blood of these doubtful cases of fever, their nature is settled at once. Whether quinine influences them or not, they are surely malarial. With possible faulty methods and careless observation, the absence of the plasmodium would prove nothing; but, barring this, the failure to find the organism would exclude malaria.

In the case of typhoid fever the recognition of Eberth's bacillus is not such an easy matter. Examination of the intestinal discharges generally gives negative results, except in the hands of the most competent bacteriologists. This want of a ready method of demonstrating the presence of the germ leaves an element of uncertainty in these cases where the symptoms of typhoid fever are not well-marked. The fully developed clinical picture of typhoid is unmistakable.

With these considerations, let us look into the differential diagnosis of these obscure cases of continued fever. To repeat: We may regard them as malarial fevers, as mild typhoid cases or as instances of a distinct affection, of which the most constant and characteristic symptom is the fever. I doubt not that among them are to be found cases of each variety—some being typhoid, some malaria and some, possibly a third, unknown fever. We know that the first two fevers do occur, to a greater or less degree, in all sections of the State. Have we at the present time sufficient evidence to say that at least some of these atypical cases are neither typhoid nor malarial, but a specific fever, which has not as yet been described? If so, what is this fever—its origin, its symptomatology and the indications for its treatment? If we can exclude malaria and typhoid, then the existence of a distinct continued fever is proved. The presence or absence of malaria can be determined with certainty by the blood-examination. For the diagnosis of typhoid fever, we must rely, as far as possible, on clinical evidence, until some more practical solution of the problem is proposed. The exclusion of malaria, however, would narrow the matter down to a distinction between the mild typhoid and the fever in question—a knotty alternative. But this is the vital point, namely, the diagnosis of those cases which are non-malarial. The exclusion of malaria is the first step. In the vast majority of the doubtful cases last summer I failed to find the plasmodium. The typical manifestations of malaria are, as a rule, readily recognized. And yet I am sure that without a blood-examination mistakes are constantly being made in designating as malarial certain affections which have a totally different origin. Various septicæmic processes, attended with fever, chills and sweats, such as pelvic peritonitis from a pyosalpinx, are often called malaria, as I have had occasion more than once to demonstrate. Of course,

quinine influenced these conditions favorably, just as it does all of these septic infections. On the other hand, many affections of a malarial origin are often not recognized and their true nature not suspected from the symptoms alone. During the latter part of September, 1895, I was able to show, by discovering the plasmodium in the blood, that the persistent fever in a primiparus woman, who had just been under my care, was not due to puerperal infection, but to a malarial fever, occurring as a complication in an otherwise normal puerperium. The patient had just moved into the city from the country and gave a decidedly malarial history. These facts are cited to emphasize the importance of a microscopical examination of the blood in these obscure cases clamoring for diagnosis. The elimination of malaria in any one doubtful case relegates it to the alternative of being typhoid or the unnamed continued fever which we are considering. It is probable that the majority of such cases are really mild types of typhoid. At any rate, the burden of proof rests upon those who hold that there is in North Carolina a continued fever which is neither typhoid nor malarial. The evidence must be in favor of our two common endemic fevers, until some new one is proved to exist.

Granting that such a fever occurs in North Carolina, what is its nature? It is certainly not the so-called typho-malarial fever, that hybrid combination which Woodward first perpetrated. This disease never existed as a separate entity and the theory has long since been exploded. It must not be forgotten, though, that the two infections, typhoid and malarial fever, may be associated simultaneously in the same patient, the character of each thereby suffering some modifications. Dr. John Guiteras* has described a continued fever occurring in Key West and other parts of the tropics, which he calls "thermic fever," and which he regards as a disturbance of the heat-centers, produced by the prolonged high temperature during the summer months. Some of our own cases, I believe, coincide closely with those pictured by Dr. Guiteras; but as far as I can judge from reading his paper, the vast majority of our doubtful fevers do not tally with his account of thermic fever. There seems to be in the affection under discussion nothing more than the mere elevation of temperature. In Louisiana, Rudolph Matas has studied these fevers which are similar to ours, and believes that "the type of fever in question is not a new or independent morbid entity, but an atypical typhoid fever."* As I write the impression grows upon me that almost all of our obscure continued fevers where malaria has been eliminated correspond very nearly with the fever described by Matas. Whether they are cases of true typhoid fever remains to be proved. However this may be, the question cannot be decided by one man on the merits of one

*Therapeutic Gazette, March 15. 1885,
*Medical News, December 15, 1894.

case. A careful investigation of a large number of cases by many different observers in all regions of our State, would do much towards solving the mystery. To stimulate such efforts has been the primary motive of these brief remarks. If I have succeeded in directing your attention to the points which may help us in the search for truth, I shall feel amply repaid.

DISCUSSION.

Dr. Powers: I regret the absence from the hall of the hero of the hour (Dr. O'Hagan). We are all at sea and need a safe mariner to conduct us over. The paper of Dr. Royster breaks new ground.

Since I first began the practice of medicine one of the chief difficulties which beset me has been to make at all times a clear diagnosis of, and properly classify, the non-eruptive fevers. No arrangement into classes has been sufficiently satisfactory to determine with precision the individuality and identity of all the forms of fever which have fallen under my eyes.

I am satisfied that the evidence is sufficient to establish the fac. beyond controversy that there is a continued fever of a specific nature within the borders of North Carolina having its own distinct clinical history and characteristic morbid anatomy, occurring only too frequently and promiscuously in the several districts of the State, known to us as typhoid or enteric fever. I am further satisfied that there is another disease, which commonly assumes the form of fever, but chameleon-like does not always appear in the same color, known to us as malaria. But between these two parallel lines of febrile diseases is a space occupied more or less by other febrile diseases existing in a state of chaos and confusion about the nature of which I am not at all satisfied or certain. They are not clear as mathematics nor susceptible of proof like an experiment in chemistry, but the outlook brightens as medicine adorns itself with legions of trained pathologists armed with microscopes and familiar with retort and test tube, and possessing an acquaintance with the entire range of analytical organic chemistry and urinary and blood analyses, th t we shall see a distinct disease capable of being identified. When our sources of knowledge are thus perfected we shall not then, as now, aim our batteries at the enemy in the darkness, through the mist and muddle of rational symptoms, but we shall see him as he is, not only by means of the X rays of Roetgen, but also by means of similar feats of a parallel advance of chemical and spectrum analyses we shall know and identify the disease with which we deal.

These are the instrumentalities with which the unexplored field before us is to be searched, and every febrile disease which makes its flight across its firmament, however meteor-like and transitory, or erratic and devious and comet-like, or steadfast and continuous, like a fixed star, may be marked and their orbs and careers traced and their true positions located upon the

chart of diseases. When this is done, if ever, it will be apparent that there is not one form only, but several forms of fever of greater or lesser duration, originating from their separate and distinct causes. Perhaps they may be traceable to morbid nervous influence, or to deranged physiology of one or more organs, or to disturbance of the bio-chemical metabolism in tissue metamorphosis, or to hyper-excitement of the thermo-taxic mechanism itself, or to the creation or introduction of some unknown substance into the blood or elsewhere, and excess of temperature is thus initiated and maintained so long as the potent cause continues to act.

There are a multplicity of substances, both physiological and pathological in influence, both native and foreign to the normal human body, which are produced either directly or, as it were, accidentally, in the process of repair and waste by the operation of vital energy; and these are capable of raising or lowering heat-production according to their composition and physiological action. In fact, the alimentary tract itself is a laboratory in which no continuous tread-mill business is done, but a number of substances, varying in degree of complexity and physiological effect, are made and passed into the circulatory streams to affect the weal or woe of the organism according to their composition and potentiality.

There are peptones and para-peptones formed in the body which vary in form and physiological action. Whence do they arise and what malefactors would they not prove were it not for the fact that the largest gland of the body is set apart for the purpose of assorting the good from the evil and working up and transforming those of baneful power into other substances which may be readily eliminated by the several emunctories? But the liver is not always in order and able to destroy every factor hurtful in effect which is brought to it for the purpose, and even though it may be reinforced by the general glandular apparatus, some of these poisonous substances will escape its power and scatter themselves abroad among the tissues and awake the thermo-taxic mechanism to consume them by oxidation. Thus fever may be engendered and continued till the nutritive force shall conquer and the source of danger is corrected by repair. In this way it is believed autogenetic infection may occur by over-taxing one or more organs or the entire organism, and a fever may be established and continued till the poison is exhausted. Examples of this kind of fever may be febricula, fatigue fever, thermic or simple continued.

It has been observed that camp life, after long marches and severe hardships, has been attended by a peculiar form of continued fever which conforms to the type of neither malaria nor typhoid, nor is it due to any living member of the plant kingdom or like origin, but to the over-consumption and exhaustive activities of the entire cellular structure of the stricken individual. Excessive toil has elaborated out of the tissues through their own

violence the nitrogenous substance which has made the patient sick with fever. Such cases may not only occur in armies, but in private life, either in Europe or North Carolina, and doubtless have many times been labelled typhoid or malarial fever and treated as such, and whether they lived or died no one was the wiser.

There is a case recorded in which the illustrious Frenchman Chomel made an egregious mistake. A young man was brought to him suffering from great prostration, muscular pain, spine-ache, etc., and he made the diagnosis typhoid fever or incipient small-pox. But a day later, with a little rest in bed, and the patient was better, and with another day added he was entirely well; and when the history had been obtained it was clear that the case was one of fatigue fever arising from proteid embarrassment resulting from the functional destruction of tissue occasioned by a long journey.

It is further observed that crowding a number of human beings or animals into small quarters and keeping them under depressing influences, particularly mental depression, is followed by a form of continued fever analogous to typhus. Thus the same occurrence has been noted both among men and animals, and gives rise to a continued fever which is neither typhoid nor malarial.

Moreover, the so-called gastric fever, styled bile fever or catarrhal by Neimeyer, again and again has been noted, and doubtless by many physicians of this State, when they were neither satisfied that its foundation was gastritis nor was it typhoid or malarial. But the patient lay sick of a fever, and there was probably an agent in the blood revolving about the heat-producing centres exciting increased molecular activity, raising the temperature and producing nausea and vomiting, etc., like an emetic acts when absorbed. Indeed this fever has been known to assume the form of an epidemic and exhibit a degree of mild infection, and perhaps it may be made to own up an origin by microscope or chemical analysis due to some form of bacterial life. Its cause is analogous to the one marked out by the paper of Dr. Royster.

The plasmodium of malaria as now known is not an unvarying factor. There are varieties of malaria and varieties of the plasmodia from which it arises, and the step-like ascent to sturdier growth and evolutionary propensities point, like the needle of a compass, to the existence of a continued fever as described in the paper which may be parallel in clinical history with typhoid or malarial fever and yet identical with neither. Further research is necessary to determine the differential distinctions, but examination of blood or urine, fæces or sputum, or sweat, etc., still has further lessons in store for us to clear up the matter of these irregular continued fevers about which many to-day are uncertain as to their identity with malaria or typhoid.

The existence of typho-malarial fever hypothetically may be admitted or denied and clinically the discussion may be continued indefinitely, but the

problem is practically unsolved till the tangible and real evidence is in hand of the discovery of the microbe or toxin, or characteristic and peculiar morbid anatomy.

Dr. Kent: It seems that we must needs go in search of some new means by which humans may shuffle off this mortal coil. I can only speak on this subject from observation in my section of the country, a section of country where indigenous malarial fevers are unknown. We have typhoid fever in greatest abundance, and the symptoms of typhoid fever are amply sufficient to cover all the symptoms found in this new fever. There is one thing which has struck me, for I have seen it in articles speaking of this unknown fever, or anomalous fever, that it comes invariably from the country districts. This tyro is remarkably shy of hospitals. Strange, indeed, that this tyro should not get into places where bacteriological examinations are made. This, gentlemen, strikes me as being sufficient to prove that there is no such fever. Bacteriological examinations are not made in North Carolina, consequently we set that aside. Post mortem examinations, unfortunately, are not made to a very great extent, especially in cases of continued fever, consequently the post mortem lesions we might find in typhoid fever are denied to us, and we are narrowed down to clinical observation, and whatever conclusion we come to at this time must be the result of clinical observation. I have given this subject some thought, considerable observation, and such reading as has been my opportunity, and after mature consideration I have come to the conclusion that there is no anomalous fever in North Carolina; that the classification of fevers as we now have it covers all fevers known to North Carolina. I am not able to say much about malarial fevers, because I know but little about them. I see the irritative fevers very little. Every doctor here doubtless sees the irritative fevers Dr. Powers spoke of, produced by fatigue, by heat, by peculiarities in diet—they are known to you all. It strikes me that it is hardly necessary for me to speak to you about irritative fevers. Yet I have no doubt in many instances these irritative fevers are mistaken for something new, in many instances they are doubtless mistaken for mild cases of typhoid. I will go a little further into the subject of typhoid. What are the symptoms in typhoid? First, where do you find typhoid fever? In every locality that we find the human family. It is found in valleys and upon the mountains; it is found upon every habitable place on the globe, and it differs almost as widely in its symptoms as in its territory. In what season of the year do you find it, and in what season do you find this new-comer? You find both coming much in the same season of the year, showing that whether they are different or not, they are kindred. It has been my observation that these strangers are found in the very same localities together with typhoid fever, and in the same community you will find cases that are not typical cases of typhoid fever; in fact, they are very

unlike typhoid fever, and yet in the same community in the same season you will find typical cases of typhoid fever. In my humble opinion they are due to one and the same cause; one is a typical case, the other is not a typical case. I have found in the same families a typical case of typhoid fever, in other members of the same family at the same time I have found cases that were so unlike typhoid fever that except for the fact that I had it in the same family and at the same time with typical cases of typhoid fever, I would have made a different diagnosis; but having typhoid fever in the house at the same time, I was forced to the conclusion that this probable new fever was one and the same—typhoid fever. I was struck recently with an article I read, coming from a very distinguished authority, Dr. Dabney. I only wish to summarize the paper read by Dr. Dabney, of the University of Virginia, while he was in attendance at the Medical Congress held in Washington in 1893. Dr. Dabney had an experience with an outbreak of typhoid fever in the University of Virginia. Fourteen cases occurred among the students and menials of the college. All these cases were traced to one unmistakable source, that of the milk supply. Among these cases two only had diarrhœa; in all the others that one prominent symptom we expect to find was wanting. Among these cases two only presented the rose-colored spots. In some of the cases the fever came on abruptly in 24 to 48 hours, and the temperature reached 103 or 104: in others of the cases it came on very slowly. After going through with this epidemic of fever, the doctor says in conclusion: "I would have made a different diagnosis from that of typhoid fever except for the unmistakable source of typhoid fever, and one or two typical cases of typhoid fever among that number."

Gentlemen, I think his conclusion in that case might be the conclusion of every careful observer. While you may have a large number that might not present all the typical symptoms of typhoid fever in every such outbreak, you will have a few cases of typical typhoid fever, and these are the ones by which to judge. In conclusion, I would simply say this, that to be on the safe side, if you will use typhoid fever treatment you will always do well. Use antiseptics.

Dr. McMullan: I come from a section of the State where we have more malaria than in any other part of it. I do not believe in the dual existence of typhoid fever and malarial fever. I do not think it is possible chemically, logically, clinically, to have typhoid fever and malarial fever in the same patient at the same time. I believe, therefore, that we have different species of the same disease, just as a light attack of small-pox protects the patient against a severe attack. It is rather a noticeable fact, and I have heard it remarked by others, that the disease runs a milder course in those who have been inoculated with malaria germs. I think that is the case, that there are really no typhoid-malaria fevers, because I do not think that they can exist at the same time.

Dr. O'Hagan: Inasmuch as the discussion has taken a clinical view, I suppose I might be allowed to say a few words on that point. We have none of us reached the diagnostic millennium which Dr. Powers has so eloquently and scientifically described, and which he says will come in the not distant future. Very few of us will be here to see it. It is a very common thing for us country doctors, who live in the East, to treat all during the year, especially in the summer and fall, cases of continued fever which do not yield to quinine, which is one of the very few specifics we have for malarial fever, but will gradually drift on after three or four days into the fever which I believe in my section of the country, since it fails to respond to quinine treatment, is a continued fever of the typhoid type, and I treat it accordingly and use just as little physic as possible. My own experience leads me to place but little reliance upon antiseptic or other specific treatment. The turpentine treatment, which was largely used fifty years ago, was introduced into the practice of the country here by Dr. Wood. It failed to accomplish what it promised at first. Various other things have lived a short time and died, to be succeeded by others equally as short-lived. One thing I have found out in these cases of fever, the less you give, the better the patient is. The best curative is water in some form or other. . . Judicious feeding will accomplish more than anything else. Internal and external application of water is the best we have, or that is my experience, and I suppose that of all in the malarial section of the country. In after life it will be pleasant for me to look down on the glorious millennium which Dr. Powers has so graphically described. At present we are in the dark, and simply doing the best we can. I shall be glad to hear from some one in the eastern part of the State of his clinical experience with this fever. I fear that it will be a long time before we will be able to make that accurate diagnosis which organic chemistry, analysis, etc., will enable our successors in the future to advance far beyond what we have accomplished.

Dr. Sikes: I had a case in the hill country that proved afterwards to be typhoid modified. This case began as a regular case of malarial fever. I know one young man that I attended last year that had malarial fever for two or three weeks, with the regular chill every other day, very severe, that went into a case of typhoid fever which did not prove to be a case of modifiep typhoid, but a case of typical typhoid fever, where we were compelled to say that it was a combination of the two. Instead of proving to be a modified case of typhoid malaria, the typhoid was sufficiently severe after three week's time to take our patient from time to eternity, but the case certainly proved to be typhoid in the end.

Dr. Gwathmey: The point Dr. Royster made is a very good one. Many times we see fevers run a short course, mild type, which have never been demonstrated typhoid, nor yet shown to be malarial fever. Personally last

year I had a fever commencing with a very mild course. Thinking every day that I was going to have malarial fever, I examined the blood and found no plasmodium. I saw absolutely that I did not have typhoid fever. Quinine had no effect upon it. After it had run for a week and I saw there was no rise, I was sure there was going to be no typhoid, I took large doses of quinine, which had no effect upon me. Whether these cases could, as Dr. Kent says, be atypical cases, is yet to be shown.

The cases of typhoid fever which I have seen in New York differ unquestionably, in a great measure, from those we see here, that is in Norfolk, which is very near eastern Carolina. These cases, almost all of them, had the regular typical symptoms, diarrhœa, rose-spots, cerebral symptoms, and the regular run of temperature. These cases have more rarely diarrhœa, some have constipation. That is a point in Dr. Kent's favor. In probably 6 or 8 cases there has been no plasmodium, in the absence of which, if it is the cause, together with the failure of quinine, there is certainly a very large possibility and a very large probability of the fever not being malarial fever. If the fever is not malarial, it seems to me that there is equally strong proof that it is not typhoid fever. I have never yet seen a death from low fever which did not yield to quinine and did not show plasmodium. Of course a great source of error, and one which probably Dr. Royster encountered, was the inability to detect the plasmodium because of the administration of quinine. You rarely ever find plasmodium after quinine has been administered.

While I cannot say positively that there is a third fever unnamed, at the same time there is certainly subject for debate, and I do not think it can be settled on the present occasion, nor by clinical symptoms.

Dr. Royster: It is unnecessary for me to add anything more in support of my position in regard to this matter. In substantiation of all that has been said, they have arrived at the same conclusion at which I arrived. As far as Dr. Powers' remarks are concerned, I think he makes one mistake in classifying fevers which he calls irritative fevers, fatigue fevers, etc., as continued fevers. Dr. Gwathmey's statement in regard to my failure to find plasmodium after the use of quinine, is true. In my earliest work—and it has not been thorough, for I had only a month to do what I did do—I say his statement is true as regards that factor in the case. I did make the mistake of expecting to find plasmodium in the same case in which quinine had been used. I made the examination in some other cases where it had been used without my knowlege.

In conclusion, I will read some extracts which bear on this question, taken at random from medical literature. Musser says: "Cases of continued fever exist that have not thus far been classified. With the exception of tuberculosis, there is hardly any other disease (than typhoid fever) in which a fever exists for two or three weeks apart from local inflammation or suppuration."

"But not all those diseases that are regarded as remittent or continued malarial fever could maintain their claim to this title if subjected to the test of scientific criticism. Physicians are too liable to designate as malarial diseases attacks of pneumonia or simple gastric disturbances or mild grades of typhoid fever running an irregular course.—*Ziemssen's Encyclopædia.*

"There are cases of a very mild form of typhoid fever in which only a very doubtful diagnosis can be made."—LIEBERMEISTER in *Ziemssen's Encyclopædia.*

# A CASE OF TRACHEOTOMY FOR FOREIGN BODY.

By K. P. Battle, M.D., Raleigh, N. C.

I report a case of tracheotomy for a foreign body in the trachea which has special features of interest. A boy of ten years of age, while looking on at a tree-cutting, held in his mouth a thin piece of chip about the size of his finger-nail. In the excitement of seeing the tree fall he drew the chip into his windpipe. There was at once considerable difficulty of breathing. This passed off after a time, but next day returned and steadily grew worse. On the third day, by the advice of his physician, he was brought to Raleigh for operation, and came under my care. The dyspnœa was not violent nor immediately alarming, but the inspirations were slow and difficult and could be heard twenty feet away. There was some hoarseness, but the voice was not greatly affected. With the laryngoscope evidence of a slight degree of inflammation of the larynx was seen, but there was no obstruction there. Just below the freely moving cords at the level of the cricoid cartilage the soft parts were so swollen that only a very narrow chink remained for the passage of air. The opposing surfaces were so nearly in contact that it was a surprise to see that the boy was not in still greater distress. How far down the trachea this condition extended could not be determined, nor could a foreign body be seen. The conclusion was that the chip was there, but was concealed by the swelling. Tracheotomy was decided upon.

At the appointed time, four hours later, the dyspnœa was about as before, but its results were apparent in a slight degree of cyanosis and an extremely listless and drowsy condition.

I had the valuable assistance of Drs. A. W. Knox and James McKee. Chloroform was given and the operation above the isthmus was begun. Just before the trachea was quite reached the patient suddenly died—to all appearances. Breathing ceased, the pulse suddenly stopped and the face took on the characteristic ghastly hue. Careful dissection being of course abandoned, the knife was plunged at once into the trachea and the three-bladed dilator quickly inserted and held widely open while Dr. Knox began artificial respiration, and the lower end of the table was raised as high as possible. The response was slow, but after a few anxious moments there were signs of recovery, and he was soon breathing freely through the artificial opening. As expected, the obstruction was thus shown not to extend below the site of the incision. Efforts were not made to find the foreign body. A flexible throat forceps was passed from the wound in the trachea downward toward the bronchi as well as upward. It passed easily through the swollen tissues above the wound, through the larynx and into the pharynx. Finding nothing after repeated trials, the tracheal tube was inserted and the boy put to bed.

For a day or two on stopping the opening of the tube the dyspnœa would become as great as ever, but afterwards breathing through the natural passages steadily improved. The tube was soon removed and there was no further trouble. The dyspnœa of this patient was evidently not due to the mere presence of the foreign body, but to the inflammation produced by it. The chip probably clung to the mucous membrane till dislodged and pushed into pharynx by the forceps and swallowed. The source of the irritation removed, the swelling subsided.

The interesting question of what degree of anæsthesia is best in these cases comes up. The rule given by Aronssohn, quoted with approval by Roe, is that when suffocation is imminent, no anæsthetic should be given. To this perhaps all will agree. But when suffocation is not imminent some operators prefer to use enough chloroform to keep the patient thoroughly insensible even when the system shows signs of suffering for the want of oxygen. This plan was followed in the present case, but I think that if chloroform had been given just to complete anæsthesia to begin with and then withdrawn and used afterwards only so far as actually found necessary to keep the patient quiet, the heart-failure might not have occrrred and that the operation could still have been properly done. I believe this the best course to pursue.

Finally, it may be noted that a patient under such circumstances is not always dead when he seems to be.

# SERUM THERAPY—A PROPHYLACTIC AND CURATIVE AGENT.

By W. O. Spencer, M.D., Yanceyville, N. C., Chairman of Section on State Medicine.

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State Medicine, Preventive Medicine, Public Health and Sanitary Science are synonymous terms and have been variously defined in the past. Dr. Mapother's definition was: "An application of the laws of physiology and general pathology to the maintenance of the health and life of communities by means of those agencies which are in common and constant use."

With slight modifications this is a good definition at this day as can be given.

The State is the guardian of her people: all through the past ages we find her law-givers interested in legislating and appropriating for the health and safety of her people. So worthy of the attention of the ancients was it deemed that we find the most rigid laws in regard to sanitation, hygiene, etc., even in that remote period of the world's history when that masterpiece, the Mosaic code of laws, was given to man, the Jews were given the most minute directions concerning their diet, the care of their health, etc. Indeed, so important was it to them that it became a part of their religious duty to which they must strictly adhere.

Rome, with her wonderful *cloaca maxima* might teach us enlightened mortals of to-day yet many a lesson in drainage, sewerage, water supply, etc.

It is useless for me to mention how, through succeeding ages, it has come down to us; sufficient it is for me to say that State Medicine is not to-day in its infancy. Yet it must be confessed that the splendid achievements of the ancients in that line did not prevent it from falling almost into disuse, I might say, oblivion, later on, until it can be truly said that it is almost of modern origin, for it was within this century that a few master minds gave it the impetus that set the ball rolling, and it devolves upon us, the doctors of to-day, who are the guardians of the health and lives of the people of our country, nay, I repeat, the doctors of North Carolina, to keep it moving; and our work will not be finished until we have procured the necessary legislation and appropriation to secure for the people of our country and State and homes the means of preventing, and, if possible, of curing, the numerous dreaded maladies that yearly are slaying so many of our citizens.

In this age of progress, where the wonderful discoveries of to-day eclipse the startling announcements of yesterday, and what to-day is looked upon with fear and trembling as an experiment, to-morrow becomes an every-day affair, the old adage, "Every disease requires a remedy," must imperatively be changed into, "Every disease requires a specific," and it should greatly concern every man who takes upon himself the grave responsibilities of a doctor, into whose hands the people place their lives and those of their families,

it should concern them, I repeat, to find out the best modes and methods for treating every disease that we may be called upon to treat. With your forbearance I wish to consider for a few moments some of the diseases for which, until recently, we have had no specific.

Small-pox was at one time a most dreaded disease; for hundreds of years it stood preëminently first as a destroyer of human life. The whole medical fraternity for ages stood aghast before it, powerless to combat it, there being no specific for it. "O, for a remedy!" was the cry of both laymen and physicians. But onward did this grim monster pursue his inroad into the human family, and no man seemed able to stay his course until Edward Jenner conceived the idea and discovered vaccination (as a prophylactic agent), which divested this malady of much of its importance.

His first inoculation was made on James Phipps, May 14th, 1796, just one hundred years ago to-day. Who could fail to reverence his name to-day? Nevertheless he was denounced as a crank and a heretic by some of the master minds of the profession in his day, but they, to a great extent, have all passed out of the minds of men, while he is immortalized. And on and on has this grand discovery gone, until now the entire world knows and appreciates this blessing.

Diphtheria is a disease of remote origin, a description of which can be traced even beyond the days of Hippocrates, 460 years before Christ. There is but little doubt that it is the same malady as described by Aretocus, A. D. 100 as Ulcus Syriacum, Malum Egypticum; by others as Cynanche Gangrenosa, etc. Indeed, numerous names have been given this disease throughout different ages. We find treatises upon it in the Dark Ages, the most notable of which was that of Hecker, in 1337. The modern history dates from M. Bretouneau, a distinguished French physician, who called it "Diphtherité," whence originated the name Diphtheria, as proposed by Trousseau. Throughout its history we have had no evidence of any specific cure. The treatment has been almost as varied as there have been doctors, with only a limited degree of success and a very high mortality rate. Its treatment was entirely empiric, with the various lauded pseudo-membrane solvents, as the bichloride, hydrogen peroxide, the old standard tincture chloride of iron and calomel, with insufflation. With all these and a host of other remedies, we find a frightful mortality of from 50 to 70 per cent. Its etiology and pathology was a mere speculation until very recently; judging from the results, it has been placed upon a more rational basis.

Modern scientific investigations have been very extensive, endeavoring to procure a more concise knowledge of the true characteristics of that malady which confronts the profession of to-day in this country as one of the most dreaded acute infections and contagious diseases with which we have to

deal. In 1883, Professor Klebs discovered a bacillus in the membrane from the throat of a diphtheritic patient, and in 1884, Loffler isolated this bacillus, This being the etiological factor, the question has been, and is, to procure a specific remedy for it and a thorough knowledge of the physiological actions of such a remedy.

Scarcely had the conclusions of Roux and Yersin been made known before the principles of a specific remedy by *immunity* were conceived of in the minds of some of the distinguished bacteriologists and pathologists and therapists in the world; among these were Roux, Yersin, Behring, Muttall, Flexwall, Welch and others, too numerous to mention. The world was stirred from center to circumference upon the advent of this treatment, with the exception of a few, and in that number were some of the best men in our profession, who at first criticized it adversely, pronounced it a fraud until the clinical experience, with a comparison of the statistics of the mortality rate of diphtheria before and since the introduction of serum antitoxin, have compelled them to conclude, as did Professor Virchow; upon presenting some statistics to the Berlin Medical Society showing that the death-rate had been reduced from 47 per cent. to 13 per cent., he remarked: "All theoretical considerations must give way to the brute force of these figures," and he, who at first opposed it, now holds it to be the duty of every doctor to use the serum treatment if possible.

Professor VanRank shows a reduction from 56.2 per cent. to 17.7 per cent. Baginski from 41 per cent. to 15.6 per cent. In 1895, Kerr, of Chicago, published a statement showing the death-rate from diphtheria without serum treatment in that city to be 53 per cent. of all cases reported, and in his report of January, 1896, with serum treatment, the mortality rate was 6.46 per cent., a reduction of 46.54 per cent. Dr. Warring, health officer of Kansas City, in February, 1896, reports that "during the past year, when antitoxine had been employed and was used in the first forty-eight hours, the mortality did not exceed 2 per cent.; if used on the third day, 5 per cent.; if on the fourth day, 10 per cent.; after which time the death-rate increased rapidly." He ends by saying: "I have personally watched the effects of antitoxine in very many cases and the results have been wonderful. I think it is almost criminal for any physician to fail to use a remedy that experience shows has never harmed any one and has saved thousands of lives." Dr. McCullom, in the *Boston Medical and Surgical Journal*, reports 848 cases, with 96 deaths—11 per cent.—all of which were treated with antitoxine, a truly remarkable result as compared with the death-rate in the same hospitals, which was 40 per cent. before the introduction of antitoxine. On operative cases the results have been very marked, causing a reduction from 86 per cent. to 45 per cent.

*Le Progres Medical* reports that there has been a reduction of 65.6 per cent.

during two years use of serum treatment, as compared with six years previous under various other treatments, and if we consider diphtheria as common in the country as in town, we safely say 15,000 is the number of lives saved in France alone.

In Germany the results for one year ending February, 1896, shows the mortality rate previous to the serum treatment to be 47 per cent., with mixed treatment 14.7 per cent., and with absolute use of antitoxine it was 6 per cent., with a death-rate of 1.2 per cent. from heart failures. In 742 cases of albuminuria and 340 cases of paralysis, and no deaths occurring from these causes under antitoxine treatment. Professor Welch, in his most valuable paper of a year ago, showed the mortality rate under the first year's use has been reduced from 50 and 60 per cent. to 17 per cent. as a prophylactic—an apparent reduction of 55.8 per cent. of cases of the disease. He affirms it to be without doubt a specific curative and preventive agent, and pronounces it the duty of every physician to use it. Dr. Hermann Biggs, of New York, shows that the spread of diphtheria can be checked with antitoxine and without isolation, much better than with isolation and without antitoxine; and furthermore, that immunity will follow small injections and will continue for at least thirty days. Within the last two years from 100,000 cases reported we find a reduction from 40 to 50 per cent. to less than 10 per cent. If this be true, I repeat, who can fail to give way to the "brute force of such figures?"

While the efficacy of the treatment is still doubted by some, the conclusions arrived at by the most eminent men of our profession is that serum antitoxine is not only a curative agent, but very decidedly a prophylactic if timely and properly used before the patient is dying of toxæmia (as it is toxic absorption that destroys life). The physiological action and pathology is not within my province at present to discuss, rather its application to State Medicine. If we have proof sufficient as to its value as a preventive and curative agent to justify our State to take hold of it as have other States, or even in a more practical way, Bacteriology and Serum Therapy have indeed created a new era in medical science. Are we as physicians, as people of North Carolina, prepared to meet it? I say as a people emphatically, *No.* It behooves us, the doctors of this State, to keep ourselves informed concerning the advances of medical science and to do all within our power to educate the people that they may be prepared to meet the demands of modern medicine.

There are many things that lay before us as yet undiscovered; the sciences of bacteriology and microscopy have revealed to us many things undreamed of by our ancestors of even a score of years ago. There are other maladies that endeavors are being made to find a specific for, since the treatment of these in the past has been very inefficient and unsatisfactory, namely, pneu-

monia, enteric, typhus, malarial, yellow and scarlet fevers, cholera, syphilis, malignant tumors, tetanus, puerperal septicæmia, hydrophobia, anthrax, tuberculosis, etc. What part serum therapy will play in these and other diseases who can tell? Surely a remedy is welcome that can cut short the scourges of these deadly maladies or that can render immune one exposed to such deadly contagion. Such remedies we now have for some of these diseases, at least, as the results of the labors of Jenner, Pasteur, Behring, Roux, Koch and other immortals, whose labors have led to these results, and truly generation after generation will rise and call them blessed. But of what benefit will these results be to us in North Carolina without the practical application, and how can that application be made without the means to make it? I pause for an answer. It seems to me the most plausible answer would be that, through the doctors of the State, the people must be educated to the dire necessity that is staring them in tne face, and when once they have become aroused we need have no fear that in the near future our purposes can and will be accomplished. Our Legislative Committee, jointly with our Board of Health (who have already accomplished so much), with the coöperation of every physician within our borders, should use every endeavor to procure such legislation as will secure to our people the best results. There should be a Bacteriological Laboratory and a Vaccine Farm, and it should be impressed upon the people the absolute necessity of assuming some extra burden to procure so great a benefit.

Last year Pennsylvania appropriated for hospitals, charity and promotion of medicine $1,284,800; New York $1,500 000, and so on through a number of the States And North Carolina is so far behind. I admit we cannot compare North Carolina with some of the Eastern States so far as wealth is concerned, yet it does seem that we might do more in this direction than we do; certainly it would be more commendable in our State to use some of the funds that are annually paid into its treasury for this purpose than for political ends from which the people receive no benefit. (So long as the doctors of the State have to pay that extra tax of ten dollars it could be appropriated that way with the unanimous consent of them all, I am sure.)

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The diphtheria antitoxine is so expensive when furnished by the manufacturing pharmacist, that if an epidemic of that disease were to break out, the masses would be unable to procure it under any circumstances; consequently the State should have a laboratory of her own, from which it might be procured at a minimum cost, and it should be furnished to every superintendent of health, and from them to the doctors, and the people should be compelled to use it. Also from the vaccine farm virus should be furnished and compulsory vaccination should be enforced. And if through the doctors of the State these wonderful achievements can be accomplished, surely we will not have lived in vain.

# SOMETHING OF SURGICAL TUBERCULOSIS AND ANÆSTHESIA.

By J. L. Nicholson, M.D., Richlands, N. C., Chairman Section on Surgery.

While I would not be understood as offering you knowledge new in the sense that all I shall say is progress of the past twelve months, I purpose saying something of the progress of Surgical Tuberculosis and General Anæsthesia in recent years.

Of all the chronic diseases of bacterial origin which concern the surgeon, there is scarcely one of so great importance as local tuberculosis. This is true both because of its great frequency and its gravity as a surgical disease.

The master mind of bacteriology, Robert Koch, in 1882 announced to the profession his great discovery. He had found and isolated, after prolonged and convincing trials, by means of the most exact methods of technique, the true and essential cause of the malady—the bacillus of tuberculosis. He had not only demonstrated the presence of this specific germ in all tubercular lesions, but was able to produce tuberculosis artificially in the lower animals by inoculation with pure cultures. These classical experiments of Koch will always command the profoundest admiration. They have been abundantly corroborated over and over again by the world's ablest bacteriologists, and to day tuberculosis, which it is said attacks in one form or another one-seventh of our population, is known, with the greatest certainty, to be due to the presence and evil effect upon the system of a certain specific rod-shaped micro-organism.

"Tuberculosis, in all its forms, is caused." says Senn, "by this specific micro be, the action of which, upon whatever tissue affected, produces histological and vascular changes which are characteristic of chronic inflammation."

While to the physician the discovery of Koch has been of immense interest and benefit in the study and treatment of pulmonary phthisis, yet, when we realize that no part of the body, not even its hard, bony frame-work, is exempt from the ravages of this microscopic being, the discovery becomes no less important to the surgeon.

There seems no point better established, and, from a surgical standpoint, of such importance, as that tuberculosis, in whatever part of the organism it may manifest itself, is, in its early history, at least, purely a local disease, and that it invariably forms at the point of inoculation, as the result of microbic growth and multiplication, a local tubercular focus of inflammation.

The large portion of chronic or granulating inflammatory affections of the skin, glands, bones and joints, which for centuries have been grouped together under the name scrofula, are now known to hold a striking etiological relation to tuberculosis. Most convincing is the evidence that these strumous conditions depend for their existence upon a specific bacterium, and that their affected tissues are histologically similar with the diseased

tissue found in other well recognized forms of tuberculosis. Yet we are told by so eminent a teacher as Tillmans that "scrofula has nothing to do with true tuberculosis; it is rather a constitutional anomaly by which infection with the bacillus tuberculosis is favored. On the other hand, Senn, in speaking of the confusion growing out of the present teachings on scorbutic skin affections, declares with much emphasis: "It is time that immaterial and unimportant distinctions should be set aside and these different affections should be included under one head, as primary tuberculosis of the skin, since all of them present the same histological structure, and all are caused by direct inoculation with tubercle bacilli."

These scrofulo-tubercular manifestations which run a benign course, as compared with a like condition in the lungs and intestines, depend upon the action of an attenuated virus (Osler), and, according to Monfau and other writers, produce in the system, when recovered from, a sort of immunity to the more fatal forms of the disease. The theory is that their exceeding slow progress and comparatively mild course are due, in the first place, to the fact that the virus is the result of inheritance and remained a long time in the system before setting up a diseased condition; and in the second place, that they slowly, but surely, elaborate the saving antitoxine. In corroboration of this view, we are pointed to the remarkably small number of bacilli frequently found present in these scrofulo-tubercular lesions.

The manner in which the bacillus finds entrance into the body is of much interest to the surgeon. That congenital tuberculosis may and does occur is proved by the finding of the characteristic microbe in the tissues of the fœtus. Birch-Hirschfeld and Schmore (Senn's Surgery, p. 483) report the case of a young woman who died of pulmonary phthisis in the seventh month of gestation. By the use of small fragments of the internal organs of the fœtus, which was delivered by the Cæsarean section immediately upon the death of the mother, they were enabled to produce inoculation tuberculosis in the guinea-pig and the rabbit. An equally interesting case of intra-uterine infection was reported by Lehman (Gould's Year Book, 1896) a few months since. Three days after the birth of the child the tuberculous mother died of tubercular meningitis. In the spleen, lungs and liver of the child, which died twenty-four hours later, he found nodules resembling tubercles and containing tubercle bacilli in large numbers. As testimony further in demonstration of the theory that the causative bacilli are frequently born in the child and not acquired, we are assured that the bacillus has been found in the ova and in the testicles of tubercular subjects notwithstanding these organs themselves were structurally healthy.

These few facts seem to indicate that the disease may be inherited, neither would it appear to be without the range of possibility for the particular germ contained in the tubercular tissue of the mother to pass through the

placenta to the fœtus in utero. Yet repeated and extended observation and research in thousands of tuberculous cases have afforded but little evidence of intra-uterine infection. That this is true, is explained by the fact that the growth and development of the embryo and fœtus is one of the most complicated and perfect processes in nature. Every step in this developmental act is protected most perfectly and each stage is kept at the highest point of nutritive activity.

That the animal organism becomes tuberculous in the vast majority of cases after birth, in consequence of certain deteriorated nutritive processes, and by the infliction of certain local injuries, producing a condition favorable to the growth and development of the specific germ, received from without, is the theory most in harmony with scientific investigation and now generally accepted.

Besides the well-established manner of finding their way into the body through the lungs by inhalation, and into the alimentary canal through the medium of the milk and meat of tuberculous animals used as food, the weight of evidence is overwhelmingly in favor of the statement that the slightest wound and abrasions, chronic ulcers or eczemas may form an avenue for the entrance of the virus.

*Treatment.*—The treatment of local tuberculosis, especially that of bones and joints, until a few years ago was very largely operative and at the sacrifice of extensive tissue. The cold abscess was left to extensive suppuration, and excision or amputation was the treatment for every case of "white swelling."

Koning, after numerous post-mortem examinations, has recently declared that four-fifths of all cases of bone tuberculosis originate from some other focus of the disease, and that with our improved methods of treatment at least one-half of these cases recover without operative procedure.

The ideal time for the treatment of tubercular arthritis has passed when the diseased condition is sufficiently pronounced to make the diagnosis sure. A positive means of early diagnosis would therefore be well-nigh invaluable. D'Arcy Power, basing his opinion on nine cases, affirms that the passive enlargement of bursæ in the vicinity of joints in children is a valuable sign of incipient tubercular arthritis. The suggestion made by Professor Klebs, that tuberculin should be used for diagnostic purposes on the human subject as it is upon cattle suspected of tubercular infection, meets with the opposition of Koch and other reliable observers. While this agent has great and almost unvarying value in this direction—only in exceptional cases failing to produce the typical reaction—yet, in consequence of the severe local and systemic disturbance it produces, frequently even in latent tubercular affections, its use in this field is rendered impracticable. Professor Fenger, of Chicago, describes a case of joint tuberculosis in which, it having

been determined to evacuate the abscess, the patient was anæsthetized. During the application of the anæsthesia the usual nervous tremor occurred, and a sound could be heard all around the operating-table resembling the chattering of teeth, or the noise made by sliding a stick along the palings of a fence, or a cane in the spokes of a wheel in motion, or a woodpecker hammering a tree-trunk, as those around the table variously described it. When the femur was moved with the hand a similar crepitation was heard as when two eburnated surfaces are pushed together, and was suggestive of the presence of large, eburnated, polished, opposing bone surfaces, which signified large, embolic polished sequestra, both of the head of the femur and of the acetabulum. Dr. Fenger calls attention to another case, occurring in the practice of Dr. Morgan, of Mercy Hospital, in which the same symptom was noted. It is probable that this symptom will be of use in diagnosticating the presence of sequestra and in guiding us to the proper treatment (opening joint and removal of sequestra) in these unfortunate cases. (Annals of Surgery, December, 1895.)

The operative treatment, hitherto so universally in vogue, has been largely supplanted by a limited operative intervention, together with the use of certain chemical agents, which have been shown to exert at least an inhibitory influence over the specific morbid agent.

Since the introduction of the iodoform emulsion treatment in 1887 by Burns excisions of joints have become rare operations. The marvelous beneficial effect of this remedy has saved many lives by decreasing the risk of secondary infection; and by enabling us to preserve important structures has given functional results much superior to those following excision. The methods of application vary with different operations, with the location of the disease, and the amount of involved tissue.

The plan of treatment by injection of sterilized 10 per cent. iodoform oil or glycerine emulsion, has been extensively used and claims the decided advantage over the incision method, since it reduces to the minimum the danger of septic infection. While possessing this advantage it is in many instances impracticacle from the fact that we are unable to properly empty the abscess cavity of the abundant cheesy masses and broken-down tissue found present. The duration of the treatment is variable. Some abscesses are definitely cured in a few weeks after two or three injections, but the rapidity of the cure is not conditional upon the size of the abscess.

The operation by incision and the removal of all easily accessible tubercular foci and sequestra preceding the employment of the iodoform, has been performed by Halsted, its author, with great success. Dr. G. Neuber, of Keil (Annals of Surgery, September, 1895), recently reported fourteen cases treated in this way, in which he closed the wound with buried sutures without drainage. Of this number eight healed by primary union, four by

granulation with no suppuration, and the remaining two with slight suppuration.

By this method of procedure we are able to carry out a plan of treatment in strict accord with the most approved surgical principles, yet the experience of most surgical clinicians show that it is with the greatest difficulty an aseptic condition is maintained. On the other hand, the danger of getting the toxic effect of glycerine or iodoform, as when used by the subcutaneous method (Schellenberg has observed and recently reported twenty-one cases of glycerine poisoning in tuberculous children, in whom it was injected as the menstrum of the iodoform emulsion) is by this procedure avoided.

That iodoform possesses a very decided curative effect over local tubercular affections is a truth now very generally accepted. Opinions differ, however, as to whether this action is truly anti-tubercular in the sense of having the power of absolutely destroying the microbe by contact, or merely inhibitory in its action, or whether it renders the tissues involved immune to the progress of the disease. Repeated laboratory experimentation has shown that the growth of pure cultures becomes arrested after long contact with iodoform, but it is not established that the vitality of fully virulent tubercle bacilli in the animal body is destroyed by such contact. Stchégoleff (*Medical Record*, May 18, 1895) has recently re-investigated this question. He found that beef-peptone-gelatine bouillon (an excellent culture medium for the bacillus) is deprived of that property when it has incorporated with it 5 per cent. of iodoform—the tubercle bacilli sown in it dying in twenty-four hours. When a 10 per cent. iodoform emulsion, together with virulent culture of tubercle bacillus, was used to inoculate guinea-pigs, the animals survived longer than those that had received non-iodoformed inoculations. Thus it would seem that, while iodoform kills the bacilli in the cultures, it only attenuates their virulence when introduced into the system at the same time as the bacillus. The same observer finds that iodoform sensibly diminishes wound secretion and increases tissue resistance.

*Cinnamic Acid.*—Professor Landerer, of Leipsic, has introduced cinnamic acid as an agent possessing very positive antitubercular properties. While clinical results have been favorable to its use as a curative agent, experimental studies show that it is well-nigh inert when brought in contact with pure cultures outside of the animal organism, no destructive effect being produced in twenty-four hours. Its action at best is not more than inhibitory. Its action is more upon the granulating inflammation resulting from the presence of the germ. "Nutritive changes," says Dr. G. F. Fowler (*Brooklyn Medical Journal*, September, 1894), "at the periphery of the tubercular nodule are induced by the action of the drug, and encapsulation takes place within which necrotic changes are diminished, both cheesy and calcareous degeneration cease, and vital processes upon which prolifera-

tion of the tubercle bacilli depends are so far arrested that the latter either perish altogether or are inhibited in their development." The same therapeutic results are claimed for this remedy, whether it be used locally or systemically through intravenous injection.

*Acetanilide.*—Among the agents entitled to further trial, especially in such cases as require incision and are complicated by suppuration, is acetanilide. In a recent paper by Dr. Thomas S. K. Morton, of Philadelphia (*Philadelphia Polyclinic*, February 16, 1895), based upon its use in one thousand surgical cases, he grows enthusiastic in commenting upon the antiseptic properties of the drug. "The action of acetanilide upon wounds, especially granulations, when used in full strength," observes the author, "is to produce intense dryness, blueness, and to check at once and to prevent the formation of pus. Suppurating joints freely dusted with the drug after opening cease to form pus, and, under subsequent packing of the wounds with acetanilide gauze, have healed with excellent results." He affirms that tuberculous lesions appear to be affected in much better manner by this agent than by iodoform, probably in large part, as in other wounds and conditions, by the intense dryness of the surroundings, depriving the bacilli of their required pabulum.

The recent laboratory work of Frothingham and Pratt (*Amer. Med. Jour. Sci.*, August, 1895) clearly demonstrates that acetanilide has a decided inhibitory action upon the growth of bacteria. The experimenters conclude:

1. That acetanilide is probably to a very slight extent a germicide.
2. That acetanilide is decidedly an antiseptic.
3. That as an aseptic acetanilide is far superior to iodoform, and that certainly from a laboratory, and probably also from a clinical standpoint, its substitution for the latter seems warranted.

To overcome its tendency to rapid solution and absorption, in consequence of which the diseased parts are left without its continuous influence and the patient subjected to the danger of toxic effects, Morton suggests the employment of oleaginous solution of the drug upon gauze.

Bier's treatment by means of *congestive hyperæmia* has claimed considerable attention of late. This method of treatment is based upon the well-known theory that cyanosis is incompatible with tuberculosis. It consists in placing a broad elastic band, properly padded, round the affected limb a few inches above the diseased part firmly enough to produce more or less continuous venous obstruction. The distal portion of the limb is supported by a bandage sufficiently tight to limit the congested area to the immediate neighborhood of the morbid condition. The duration and the amount of pressure should be regulated to suit the local reaction and the patient's comfort. One of the first and most positive effects of the treatment consists in a striking amelioration of the pain in the affected joint.

The curative effect of iodoform is intensified in hyperæmic tissue, and with the combined treatment the danger of atrophy and disturbances of development of the limb are diminished and exceptionally good functional results are obtained. (Zeller, of Berlin).

The latest observations of Bier upon the question, as set forth in the Annals of Surgery, October, 1894, are:

1. A large percentage of joint tuberculosis heal smoothly under the treatment of congestive hyperæmia.

2. In other cases difficulties arise in the treatment and the disease becomes worse. The latter is usually only apparent, and is due to—

(*a*) Tuberculous abscesses in closed and open lesions. The abscesses usually are accompanied with symptoms of severe inflammation and disturbance of the function of the limb.

(*b*) Hyperæmic ulcerations and granulation formation.

These are the apparent set-backs. The following are real changes for the worse:

(*c*) Acute inflammation complicating the tuberculosis and giving rise to "hot abscess." Erysipelas may develop.

(3) The quickest results are obtained by a combination of congestive hyperæmia and iodoform injection. At the same time the joint should be immobilized.

Notwithstanding the already free employment of the method, with results eminently satisfactory in many cases, the rationale of the treatment is by no means well established. Whether the venous obstruction produces a positive increase in tissue vitality and resistance—the tissues in consequence being made immune from the microbe—or whether the congestion so increases serum accumulation as to render the joint unsuited to germ development; or whether still it so modifies the germ itself as to produce a sort of auto-tuberculin effect, are questions still unsolved.

*Hot Water.*—While cinnamic acid, naphthol-camphor, iodine, iodoform and other chemical agents exert in many instances very positive influence over the progress of localized tubercular lesions, from the very nature of things their effect is limited to such germs as may be found in the immediate neighborhood of the pathological cavity.

The new method of treatment by means of boiling water, instituted by Jeannel, of Toulouse, is said to be a surgical procedure of superior efficacy in attacking the remoter colonies of bacilli. Unlike these chemical agents, its therapeutic effect is far-reaching and penetrates deeply, with germ-destroying effect, into the surrounding infected tissues.

The advocates of this treatment make use of two methods of employment. In the first instance the boiling salt water, in the exact quantity desired, is conducted through a flexible tube into the abscess cavity, while the edges of

the wound are held apart by forceps. Upon the fall of temperature the water is removed by the use of the sponge or the hard rubber syringe. This process is repeated a few times until a sufficient degree of cooking, so to speak, is effected. This is manifested by a characteristic gray coloration of the surface tissues.

A second and preferable method consists in, after filling the wound cavity with cold or tepid salt solution, raising it to the boiling point by introducing into the water the blade of the thermo-cautery, kept constantly at a red heat. The cavity is soon relieved of its liquid contents by evaporation. This procedure insures a constant temperature, alike upon the tissues in every direction.

Wounds treated by hot water yield a profuse serous secretion. The pain produced is inconsiderable after the first twenty-four hours. Within the first week the cheesy centres take on a healthy appearance, the wound becomes clean and repair rapidly ensues. Suppuration, it is said, rarely occurs, and in some instances primary union has been the result.

Before instituting the treatment the cavity should be relieved of all fluid and easily accessible fungous masses. The arrest of all hemorrhage is a preliminary precaution highly indispensable, due to the fact that blood coagulated upon the cavity walls will greatly hinder the penetration of the hot water.

As compared with the old plan of cauterization by the use of dry heat, this method possesses very superior advantages.

A temperature of 80° C. is sufficient, it is claimed, to destroy and render inert the toxines of the bacteria; 100° C. of moist heat destroys the germs and is as effective as 600° C. of dry heat.

The effect of the former is to soften, penetrate and sterilize the tissues to a great depth, while that of the latter is to roast and carbonize the surface, while the the deeper tissues, with their infectious germs, remain unchanged. (See editorial in Annals of Surgery, October, 1895.)

*Chloroform-Oxygen and Ether-Oxygen Anæsthesia.*—The plan instituted by Dr. H. L. Northrop, of Philadelphia, to combine the administration of oxygen with that of the agent used to produce general anæsthesia seems, from the experience thus far reported to be one of the greatest advances in modern surgery.

Of all bitter scenes and sad accidents that may confront the surgeon, there is scarcely one more profoundly shocking to his feelings than the death of his patient as the result of his anæsthetic. The possibility of this fatal accident is ever before the surgeon, and notwithstanding wise precaution and scrupulous care with the improvements heretofore in practice, the dreaded possibility too frequently becomes an embarrassing reality. Recent statistics compiled by Professor Gurlt, of Berlin, based upon seventy-seven reports from

European clinics, show that in 1895 out of 31,083 chloroform narcoses there occurred twenty-three deaths unquestionably due to that drug, and eight deaths of doubtful cause, and out of 15,712 ether narcoses there occurred five deaths due to this anæsthetic and one death of uncertain cause. The statistics for five years, according to the same authority, show one death to every 2,909 chloroform narcoses, and one death to every 6,004 ether narcoses, saying nothing of a mortality of 50 per cent. in cases of pneumonia arising from ether inhalation.

The cause of death from the administration of chloroform and ether has been the subject of very searching investigation. While death from these agents in the stage of deep narcosis may be caused by the direct paralysis of the circulatory or respiratory centres in the medulla oblongata, a deoxidation, want of oxygen and crippling of the blood has been demonstrated to be a very destructive factor. Chloroform has the power," says Tillmanns, "in part of directly destroying the red blood corpuscles, and in part of robbing them of their ability to take up oxygen and to drive out carbonic acid. According to the analyses of the blood made by Oliver and Garrett (*Annual Universal Medical Sciences*, Vol. 3, 1895), it is shown that chloroform does unquestionably lead to deoxidation of the blood and tissues of the body; and, according to Chapman and others, death may result from such deoxidation. Discussing the blood-alterations in ether anæsthesia, Dr. John Chalmers Da Costa has said (*Medical News*, 1895): "The condition of anæsthesia is thought by most observers to be due to the passage of ether into the blood and the subsequent direct action of this drug upon the nerve-elements. . . . It seems highly probable (from a series of experiments I am about to submit) that the cause of the anæsthetic state is not merely the direct action of ether upon the nerve-elements, but involves likewise an alteration in the composition of the blood. . . . Any condition that suddenly alters the composition of the blood must prevent nutrition, retard the removal of waste products and fix the molecules of nerve-matter. . . . It seems evident that altered nutrition and a failure to remove waste products might depend upon the absence of proper oxygenation as well as upon the presence of carbon dioxide. Diminished capacity for oxygenation means diminished amount of oxygen in the blood; and lessened amount of oxygen means a lessened amount of the oxygen-bearing element, that is, hemoglobin." He declares, from careful examination in a series of twenty-seven cases, that, after the inhalation of ether, there is constant diminution in hemoglobin; that the diminution is rapid and marked, being accompanied also by a change in the shape of the corpuscles of the blood; and that these changes are so pronounced in the anemic as to explain their slow reaction and the prolonged and pernicious effect of anæsthesia.

Following somewhat the same line of investigation, Keiffer points out that

both ether and chloroform, by displacing oxygen, even in the respiratory passages, may so interfere with the metabolism of the body as to eventually paralyze the various nerve-centres presiding over respiration and circulation. (*Annual Universal Medical Sciences.* Vol. 3, O. S., 1895.) For, as Northrop says: "Function must go on even during the anæsthetic state. . . . Function depends upon the oxidation of tissue; oxygen is the oxidizing agent of the body. Anything that lessens the supply of oxygen to the animal body will interfere with its functions. We *must* have oxygen in sufficient amount of function, and, therefore, existence, life, vitality, is to be maintained." The vapor of chloroform being more than four times as heavy as atmospheric air, it readily displaces air, even when administered with abundant precaution. By its own weight it falls into the ultimate pulmonary vesicles, into immediate contact with the blood, to the exclusion of oxygen, the prevention of oxidation, the consequent arrest of function and the death, it may be, of the patient.

Reasoning from such premises, Dr. Northrop, in 1893, concluded that accidents from the administration of chloroform and the troublesome sequelæ might be avoided by the use of oxygenated chloroform. He accordingly devised a very ingenious apparatus for closed inhalation, whereby pure oxygen is administered to the patient along with the anæsthetic, guaranteeing a sufficiency of oxygen, easily regulated as to quantity, as the requirements of each individual case in any stage of the progress may seem to demand. From a tabulated list of one hundred cases anæsthetized after this method. (Author's reprint of report of the Hahnemann Clincal Club Anæsthetic Commission, February, 1895), the following conclusions were arrived at: Complete anæsthesia was produced, as a rule, in a shorter time than can be done by ether or chloroform. The shortest time required to bring about complete anæsthesia with oxygenated chloroform, was one-half minute, and the longest time ten minutes. The average time consumed in anæsthetizing each case was $4\frac{7}{100}$ minutes, which average is probably lower than any yet published for ether or chloroform administered by the open method, and possibly lower than any for the closed inhalers.

The quantity of chloroform used in many of the cases was certainly insignificant, and, of course, the amount of oxgen consumed must have been in direct proportion to the quantity of chloroform vaporized. One of the most prominent (and we must say, the most pleasing and satisfactory), conditions attending the use of oxygenated chloroform, was a rosy color and healthful blush of the lips and cheeks, and a bright red oxygenated state of the blood flowing from a wound. These apparent expressions of good aeration are worthy of note because of the contrast presented to the well-known death-like pallor attending the use of chloroform alone. Vomiting occurred in 30 per cent. (or less) of the cases. Frequently retching occurred while the

patient was on the operating table. This was immediately and successfully controlled in all cases by turning on the current of oxygenated chloroform. . . . Oxygenated chloroform usually slows the pulse, and the more deeply the patient is anæsthetized the more slowly the heart beats, but the pulse is full and strong. The respirations are apparently not affected. The respiratory movements are certainly not labored or excited, though in one or two cases the respirations were irregular, at one time fast, at another slow. Recovery takes place very quickly, our patients often being wide awake in ten or fifteen minutes after they are placed in bed, and almost invariably without any delirium or sign of intoxication."

Dr. Carter S. Cole, of New York, has similarly demonstrated the beneficial effects of oxygen administered in conjunction with ether. The inhalations of oxygen alone most effectually and rapidly removes the unpleasant after effects of either anæsthetic.

More extended experience with the oxygen combination seems to show that, while in most cases very astonishing beneficial results follow, a few cases have been recently reported apparently showing a positive harm came from its use.

Still another method for producing surgical anæsthesia with safety, has just been instituted by Rosenberg, and presents itself for favor. Quite unlike that of Northrop's, the theory upon which this is based is that the main factor in causing the dangerous disturbance of heart-action is an interference produced by the anæsthetic with the organs of respiration. The untoward symptoms are asserted to be reflex in their nature, and the outcome of irritation to the nasal endings of the trigeminal nerve filaments.

To overcome this trigeminous vagus reflex, the author suggests the application of a 10 per cent. solution of cocaine in spray to the nasal mucous membrane.

From a double series of interesting experiments upon animals Rosenberg boldly claims that cocaine is an antidote to chloroform. The first series of experiments in which the cocaine was used; after deep narcosis had been produced, showed, says Rosenberg, that this agent possessed the power of instantly checking the action of chloroform upon the brain.

In the second series of observations, in which the cocaine was applied before and during the narcosis, it was claimed that the animals thus treated could stand double the quantity of the anæsthetic and could be kept under its influence for a much longer time than non-cocainized animals.

According to Rosenberg the advantages of his method are:

1. The feeling of suffocation is entirely absent.
2. The stage of excitement is either short or entirely absent.
3. Vomiting during narcosis is diminished.
4. Sickness following anæsthesia does not occur.

That the respiration is influenced by the direct action of chloroform and ether upon the nasal terminal branches of the fifth nerve; and that the cessation of respiration or the arrest of heart-action in the *early* stage of narcoses, is, in all probability, due to trigeminous-vagus reflex, are statements which seem every way reasonable.

Of the twenty-three deaths from syncope collected and reported by Kapler, nine occurred in persons only partially chloroformed, at a time when they could hardly be ascribed to any destructive influence of the agent upon the blood or tissues of the body. These figures lend color to the belief that reflex influence may be the chief cause of death in the early stages, and a cause which, as Rosenberg contends, may exert itself in further stages of narcosis.

In the Annals of Surgery for January, 1896, Dr. A. G. Gerster presents an interesting discussion of the Rosenberg method, with a report of one hundred cases, and reaches the following conclusions:

1. That the cocainization of the nasal mucous membrane preceding and during surgical anæsthesia considerably diminishes the distress and oppression felt by patients at the beginning, and that they (confined alcoholics excepted) manifested less reflex irritation than usual, less struggling, coughing and nausea.

2. The latter stages of narcosis were also more quiet and more free from disturbing interruptions than usual.

About 10 per cent. of his cases showed a marked acceleration of pulse-rate, with facial pallor, followed by profuse sweating, "probably the effect of cocaine." A diminution in the depth of respiration was another objectionable symptom observed.

As to the *After Effect*, the nausea, vomiting, headache and general malaise were believed to be lessened by the method.

"On the whole," says Gerster, "it is safe to conclude that, in view of the ease and simplicity of the procedure, of the absence of apparent risk, and on account of the undeniable diminution of the trying subjective effects upon the patient caused by the use of cocaine upon the nasal mucous membrane, its extended and systematic trials deserve encouragement.

The wonderful effects ascribed by Rosenberg to the use of cocaine present an illustration of theoretic enthusiasm little short of the ridiculous. Doubtless the drug, nevertheless, possesses value as an adjuvant to safe and comfortable anæsthesia. The serious accidents and deaths that occur in the early stages of the process before the centres can have become profoundly impressed through the quantity of the anæsthetic in the blood, may be credited to reflex influence beyond the central and without the consciousness of irritation on the part of the patient, as if the centres were startled to death by the contact of the anæsthetic upon the terminal nerve-filaments, the central

disturbance not being proportionate with the sensible irritation. If cocaine prevents this reflex shock, I judge that its legitimate field of usefulness is limited to one preliminary spraying of the nasal mucous membrane. For if all reflexes are progressively deadened in the progress of anæsthesia as an effect of chloroform or ether, a subsequent application of cocaine would seem to be useless and probably harmful. By its limited use, followed by the anæsthetic combined with oxygen, the condition of narcosis should be induced and recovered from without distressing symptoms or embarrassing accidents.

# SHALL WE LONGER CAST OUR PEARLS BEFORE SWINE?

By Thos. M. Jordan, M.D., Hookerton, N. C.

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The title of my paper may possibly indicate to some of our more serious fellows that I am sacrilegious to a degree unbecoming a member of our profession. That such is not the case, I hope to be able to show as I proceed. Neither do I desire to be classed among those who continually parade their own worthy deeds to the disparagement of others. But what I have to say is simply in justice, as I consider it, to the medical profession of North Carolina. For a series of years, the doctors of North Carolina have worked patiently and arduously, in season and out of season, to elevate the standard of practitioners inside its borders, thereby protecting the people from incompetent quackery and deception on the part of their medical advisers. The result of their efforts is to-day a living monument worthy of the admiration of all people; and it is generally understood by medical students in all the schools, that if they obtain a diploma, and wish to practice in North Carolina, they have still a harder examination, that of the State Board, to pass. But while all this protection has been given to the people against incompetent practitioners, and the standard of medicine among the doctors of North Carolina has been placed in the front rank of the profession everywhere, has it been at the cost of the State, or the cost of the doctors? As is well known, the fee paid for the examination of the applicant is absorbed and pays the $4.00 per diem allowed by the State to defray the expenses of the members of the Board of Examiners. The cost to the State, being only the cost of allowing the charge.

In matters sanitary, the State has done but little better. Fresh in our memories is the bill of 1893, appropriating $20,000 to establish a quarantine station at the mouth of the Cape Fear river, provided the city of Wilmington would appropriate $5,000 to the same cause. Yes, strange as it may appear, that proviso was in the bill, as though the city of Wilmington, always surrounded with the choicest reminiscences of our State's history, our principal seaport and largest town, was not a part of North Carolina, and did not pay her pro rata of taxes to the State, and was not entitled to any benefit any other section of the State was without additional cost. Must Wilmington pay $5,000 to enable the State to do its duty to its people? Did Wilmington do it? No, no sensible man, or set of men would have done so under such unreasonable circumstances. The Medical Society of North Carolina have urged the people of the State time and time again in its meetings; and by committees beseiged the law-makers to take steps for the protection of the lives of its citizens against incursions of contagious diseases, when it is known of all men, that the parties most likely to profit by such calamity

would be the doctor and the undertaker. And the State, by that memorable last Legislature, showed us its gratitude, by levying a special tax of $10.00 a year upon us, all for the privilege I suppose, that we take in advising it, without charge and without having been requested to do so, how to do its duty to the State and its citizens. Shall we longer gratuitously treat them under such adverse circumstances? Shall we longer cast our pearls before swine? Now it is true the State has appropriated by an Act in relation to the Board of Health, $2,000 annually, a pitiful sum indeed to carry out to any effective purpose, section 3, of said bill, in investigations of causes of disease dangerous to public health, gather information upon all these matters for distribution among the people, information of preventable diseases, etc., etc., teaching them by health conferences to look at these matters intelligently, and be benefitted thereby; but where is there a single doctor more than another citizen of the State, benefitted by such appropriation, save the efficient Secretary and Treasurer to the Board of Health, who as an officer of State is the poorest paid man, considering responsibilities and labor of any officer from Township constable to the Governor. Further, by section 11 of said act, every physician in North Carolina is a Health officer of State, without any remuneration whatever, without the hope of reward or glory, amenable to punishment by fine for dereliction in the discharge of the duties of such office. Now, I do not pretend to deny the right of State to command the services of its citizens. This of necessity must be; but in civil service, amenable to punishment for failure in the performance of the duties of such office, shall we enter no word of protest, against having to pay dearly for the privilege of being capable of discharging the duties of this responsible trust. Are we the special unpaid guardians of the State more than other men, and for that privilege, after paying our pro rata of all other taxes, to pay $10.00 a piece for the privilege? That the servant is worthy of his hire, and by the sweat of your brow shall you eat bread, has long been undisputed doctrine, but by their action, the last General Assembly completely ignored such teaching in so far as the doctor's relation to the State is concerned, at least. The question arises, have we not already and shall we continue longer to debase ourselves in the estimate of our State, by offering and urging it to take our gratuitous prescriptions, when we get neither pay nor gratitude. Viewing this matter as a majority of mankind necessarily do, "that the servant is worthy of his hire," and that generally speaking, men work for pay, does not the State regard with suspicion our attempts to serve it without pay? If individuals, in other words, are we so different from other men, that we are willing to serve without pay or honor, and pay for the privilege?

Has the State ever honored a member of our profession with a painting, hung upon the walls of a public building; or put one stone upon another to mark the last resting place of a doctor? If not, why not?

Does the State regard as a joke our free advice as to sanitation and hygiene, because it can see that in preventing disease we are killing the hen that lays our golden egg? Does the State attribute no greater motive to the high and sacred calling of a physician than that of obtaining a livelihood?

Necessity is the mother of invention, and it looks like nothing short of a scourge of small pox, or yellow fever can ever arouse North Carolina to a sense of its duty, or to a just appreciation of the physicians like Jno. McDonald, S. S. Satchwell and Thos. F. Wood and others who labored so philanthropically without reward; the latter creating, and from his own private scanty means nursing into existence what of State medicine North Carolina may boast to-day. While we fondly cherish the memory of such, and deeply deplore their irreparable loss to our society and the State, and sorrow that we are deprived of their wise counsel and encouragement in our gatherings, we nevertheless feel relieved that they do not know in the flesh at least the estimate placed recently upon their efforts, their fellows and followers by the State they served so nobly and so well.

# LEUCORRHŒA.—NON-SPECIFIC.

By Frank H. Russell, M.D., Wilmington, N. C.

An apology might be offered for presenting a paper on a subject so well treated in the text books, and one on which I have very little that is original to offer, but it is nearly always treated of under the disease of which it is a symptom and its various forms are not appreciated, so I thought the different forms collected under one head and treated as a disease might be interesting.

Leucorrhœa is a discharge, either watery, mucous or purulent, coming from any portion of the mucous surface of the female organs of generation. It is not a disease but a symptom of some pathological condition of the generative organs. How frequently we are called upon to give something for "the whites," and how frequently we utterly fail to give anything that cures it.

When we look at the anatomy of the tract and think of the uses and abuses to which it is subjected, it is not strange that it is such a common symptom and such a hard symptom to relieve.

The source from which a locorrhœa may generate begins at the inner surface of the labia majora. Extends through the vagina, uterus and tubes.

The inner surface of the labia majora resembles mucous membrane, but has sebaceous glands.

The labia minora are two folds of mucous membrane in which we find sebaceous and mucous glands, the glands of Bartholini being of special interest. They are two in number, yellowish-red in color, about the size of a pea and are of the compound racemose variety. The vulvar mucous membrane is pink in color and lined by squamous epithelium. Its blood supply is derived from the internal and external pudic arteries.

The internal or mucous coat of the vagina begins at the vulva and is continuous above with the mucous coat of the uterus. It is arranged in transverse folds most marked anteriorly. It has large papillae and is covered by squamous epithelium. It is remarkably free from glands, the lower one-third containing most of them.

Its secretion has an acid reaction. It receives its blood supply from the vaginal branch of the internal iliac artery. The mucous membrane of the body of the uterus is lined by a single layer of columnar, ciliated epithelium. It contains numerous tubular glands known as uterine glands. In the cervix the mucous membrane is folded presenting in the virgin the appearance known as arbor vitae, it is covered with squamous epithelium, the glands are of tubular variety and secrete a clear tenaceous substance resembling the white of egg. It receives its blood supply from the uterine artery, a branch of the internal iliac.

The mucous membrane of the Fallopian tubes is thrown into folds and lined by a single layer of ciliated columnar epithelium. It has no glands.

Any gland, when irritated or stimulated, secrets more abundantly and if the stimulus is kept up, the structure of the gland becomes hypertrophied and its secretion becomes abnormal. The blood is the natural stimulus of any gland; when this is interfered with congestion results, and the secretion is altered; this is why we find leucorrhœa such a common symptom in so many tubal, uterine and vaginal diseases, these parts being prone to congestion on account of their peculiar blood supply and anatomical position.

Although the mucous membrane of the genital tracts is so closely connected and so nearly alike throughout, the discharge which comes from it differs as it comes from its several parts, hence leucorrhœa is divided into different forms. Vulvar, vaginal, cervical, uterine and tubal.

*Vulvar.*—Leucorrhœa of the vulvar is a viscid secretion, collects on the labia and often sticks them together. It is composed of epithelial cells, pus corpuscles and mucus.

*Causes* (*a*). Often found in those of a tuberculous or scrofulous diathesis.

(*b*). Parasites, thread worms around the anus of children.

(*c*). Masturbation or excessive coitus.

(*d*). The congestion caused by pregnancy, tumors or menstraution.

(*e*) Discharges from disease above.

(*f*). Traumatism.

(*g*). Want of cleanliness.

(*h*). Scratching the vulva with dirty finger nails, a cause in children.

*Treatment.*—If the general health is not good is should be looked after by tonics, diet, etc.

The local treatment consists in the use of anti-septic and astringent washes used often enough to keep the parts clean. Peroxide of hydrogen, 3 per cent., is very satisfactory or sulpho-carbolate of zinc 10 grains to ℥ i of water. A small pledget of absorbent cotton kept between the lips absorbs the discharge, allays the irritation and makes the patient comfortable.

*Vaginal.*—Leucorrhœa of the vagina is a whitish or clear discharge, often curdled from the mixture of the acid secretion of the vagina and alkaline of the uterus, it is yellow in color when mixed with pus.

It is a symptom of (*a*) inflammation of the vagina.

(*b*). Passive congestion caused by pregnancy, tumors, tight lacing.

(*c*). Excessive coitus or masturbation.

(*d*). Subinvolution of the uterus.

(*e*). Erosions of vagina.

*Treatment.*—As a symptom this requires little more than hot douches with sulphate of zinc or some other astringent and a tampon wet with boro-glyceride 30 per cent. applied every second day for several days. It is anti-septic

and relieves the congested tissues, without draining out the albuminous constituents of the blood.

*Cervical.*—This is probably the most common and troublesome form of leucorrhœa we have to contend with.

It consists of a clear tenacious discharge resembling the white of egg.

Alkaline in reaction; contains epithelial cells.

*Causes* (*a*).—During pregnancy the cervical glands enlarge and pour out their secretion more abundantly, due to the congestion caused by this condition.

(*b*). In nearly all cases of labor the cervix is torn. In most cases only a small laceration is produced, but very often this does not unite and enough irritation is caused to produce a leucorrhœa. Often the lips are everted and thickened the extent of the laceration can be demonstrated by placing the lips in apposition by two tenacula.

(*c*) In the multiparous flexions and versions are the cause, the canal usually being very small.

(*d*) Excessive coitus and masturbation. "Wherever in an unmarried woman the labia majora are large, dark, pigmented, rugose and insensitive, and the vulva admits of distention beyond the ordinary, masturbation may be suspected."

(*e*). Inflammations of adjoining parts of the genital tract.

(*f*). Subinvolution of uterus.

(*g*). Constitutional diseases as phthisis, chlorosis, syphilis, lowered vitality from any cause, as prolonged lactation.

*Treatment.*—Vaginal douche. Hot water with sulphate of zinc or borax is useful; it relieves congestion and keeps the parts clean; the water should be used as hot as the patient can well bear and in large quantity, one to two gallons each time; it should be used as often as once in twenty-four hours.

Applications to the canal are useful, the tenacious secretion being removed before these are made. Instruments have been devised for removing it but their use is not satisfactory. A piece of absorbent cotton on an applicator introduced into the canal and twisted removes it about as well as any thing; several different pieces have to be used. Probably the most largely used and best application is two parts of iodine to one part of carbolic acid.

Solutions of chlorides of zinc, chromic acid and nitrate of silver are used. Once a week is about the average time applications are made. Where congestion and hyperplasia are present medicated tampons are useful. Ichthyol is being largely used from a 5 per cent. to a 25 per cent. solution in glycerine a solution of boro-glyceride 50 per cent is useful applied in this way.

The tampon is made of cotton or wool. Cotton forms a very firm one, and I should say is best where support is desired, otherwise anti-septic wool is best, as it does not wad up in balls and become uncomfortable, is soft and elestic.

In many cases a thorough curettage of the canal has to be done or a trachelorrhaphy if there be a laceration.

*Corporeal.*—This consists of a watery or mucous discharge alkaline in reaction, often containing pus.

We find it in endo-metritis, subinvolution and malignant diseases.

If it is of a mild form applications of iodine and carbolic acid can be made otherwise a thorough curettage of the cavity, under strict anti-septic precautions and drainage by iodoform gauze give the best results.

In some cases of amenorrhœa there is a pale discharge from the uterus.

*Tubal.*—This is usually purulent, it collects and distends the tubes, causing pain while the distension is going on. It often discharges through the uterus.

The usual treatment is removal of the diseased tube.

Drainage through the uterus with iodoform gauze, the cervix being well dilated, may do good.

# PATHOLOGY AND MICROSCOPY.

By D. M. Prince, Laurinburg, N. C.

This paper is composed of "cullings from books and periodicals." Nothing original is claimed for it, and no apology offered. Such things as are new, and of interest to the profession, have been selected. Some new matter has been omitted: probably, some old and familiar introduced. No special classification has been attempted, though, in a general way, the order of arrangement of subjects used by Osler, in his book on Practice, has been followed:

Typhoid fever, it is generally conceded, is produced in almost all cases by drinking water contaminated by animal excrement. T. Lawasscheu found microccoci in blood taken from Typhus fever patients. They were in couples, or in larger numbers, the single micrococci separating by oscillating movements, sometimes one of the ends of the microbe terminated by a thin thread; they measured 0.2 or 0.3 m. Characteristic cultures were produced from blood on agar-agar, in form of half-transparent cloudlets along the superficial layer. He calls this the "micrococcus exanthematicus," and holds it to be the pathogenic agent of infection. Experiments on animals confirmed his views. Nicolle, Brunon and Lerefait in their investigations found no microbe but steptococcus. Relapsing fever is believed by Bose and Guenin to be a form of infectious icterus: the relapse a crisis. The exact nature of the disease is not known. The cause of scarlet fever is still undetermined. A good many experiments claim that it is primarily a local disease and the secondary infection (eruption etc.) is due to the formation and absorption of toxins; the pathogenic agent being the streptoccus pyogenes—the microbe of erysipilas, puerperal septicaemia etc. Berge is the leader in these experiments and says that the streptococcus secretes "an erythematogenic toxin" whose diffusion throughout the organism produces the cutaneous, or mucous eruption. An editorial remarks that it will be necessary for Berge to isolate the specific "erythematogenus toxin" and show that it is produced by the streptococcus, or some modality thereof, before his chain of evidence will be complete.

The question of the identity or the duality of the virus of variola and vaccinia is still discussed. Interesting and valuable studies have lately been made but the question is still unsettled. Martin believes that the germ of cow-pox is a bacterium which can be grown upon certain kinds of blood serum, and that, after an infinite number of generations, it retains, unimpaired, its pathogenic properties.

During the last year more attention than formerly has been given to the study of mixed infection in diphtheria, or the occurrence, in the patient, of

other pathogenic germs, together with the Loeffler bacillus. The streptococus pyogenes is probably the most frequently associated with the Loeffler bacillus. Recent writers attribute the severity and mortality of diphtheria to the accessory germs, which entering with the toxin generated by the true bacillus diphtheriæ cause inflammation which anti-toxin and other remedies cannot control.

Pfeiffer continuing his investigation of 1893, on the influenza bacillus, finds, that on blood-agar they develop easily and can be cultivated through successive generations, whilst inoculation on any other nutrient soil remains sterile. The constituent of the blood required by the bacillus is the hæmoglobin of the red blood corpuscles. The bacillus is strictly anërobic; the extreme limits of its development are 107.6° and 68° Fahr. It dies quickly in drinking water, and in suitable nutrient soil lives about fourteen days. He concludes that the (1) development of the bacillus in soil or water outside the human body is not possible: sputum, reduced to dust, can carry the disease to only a limited extent; (2) the contagion, as a rule, is contained in moist and fresh secretions from the nasal and bronchial mucous membranes. His experiments on animals was only successful on monkeys.

According to Ribbott; of Bonne, croupous pneumonia differs from so-called catarrhal pneumonia in its diffuse distribution, and the inference drawn is that infection takes place by the bronchial passages. The uniform duration of croupous pneumonia is due to the fact that the cocci possess, in general, a similar vital energy, and thus die at regular intervals. Reiche, of Hamburg, reports that in forty cases of uncomplicated pneumonia in adults, in 60 per cent. where albuminuria of low degree was present during life, renal changes, varying in intensity and degree, were found, almost always involving the cortical epithelium. Of twenty-four cases in which pneumococci were sought for in the kidneys, they were found in all but four, though generally not numerous. Rivolta found acute œdema of the lungs in thirty-one of fifty-one cases dead of croupous pneumonia. The exudate within the alveoli contained diplococci in large numbers, and almost in pure cultures. The œdema is considered as an acute inflammatory process dependent upon the pressure of the diplococcus and corresponding with the interstitial stage of pneumonitis. In sporadic cases of meningitis when tubercle, otitis, trauma, syphilis, and other well known causes are not present, Bottomly concludes that the ordinary micro-organism of epidemic meningitis is the factor—the diploccus pneumoniæ. Ferguson in examining the brain of a man dead of cerebro-spinal meningitis, microscopically, found the pia intensely inflamed everywhere, with punctate hemorrhages, and the cortical vessels containing innumerable small round cells, some in the walls of blood vessels, and some in the perivascular spaces. These cells were also found infiltrated through the cortex; the entire brain cortex was infiltrated with pus.

Bacteriological examination revealed the micrococus pneumonia crouporæ in brain and spinal cord. Ferguson says he has found this organism in the vast majority of cases examined during the past few years. Flexner and Baker, reporting an epidemic in 1894 confirm this observation.

H. M. Biggs states that in examining thirty-six cases of croup, where the membrane was confined to the larynx, he found the Loeffler bacillus in thirty. In a further statement he says that out of 286 cases the Loeffler bacillus was found in 229. In these 229 no membrane existed above the larynx. Of the fifty-seven cases in which the bacillus was not found, in seventeen the cultures were unsatisfactory.

Cohn and Newman examined the expectoration in twenty-four cases of whooping cough. At the end of the spasm the sputum was placed in a Petri glass, thoroughly washed and dried and stained with carbolic methylin blue. By microscopical examination diplococci, and short chains of small cocci were seen, but the authors are cautious about assuming that these are the specific germs of the disease.

Papienske concludes that (1) traumatic tetanus is caused by Necolain's bacillus which gains entrance into the wound by means of dust, bits of wood etc.; (2) that tetanus of the new born is identical with traumatic tetanus in adults, and is caused by infection of the umbilical wound by tetanus bacilli. The infection may be communicated by careless nurses, by dirty dressings of the stump; and (3) the bacilli are limited to the point of infection and cause the development of toxins. As cases have recovered by all recorded methods of treatment, the disease may be said to be self limited.

Golgi divides malarial fevers into two classes: 1st. Those in which the parasites are essentially connected with the circulating blood. Of these there are different varieties:

(*a*). Fevers due to a parasite, the evolution of which requires three days (quartan). According as the infection is represented by one, two or three generations of the parasite, we have quartan simplex, duplexa nd triplex and certain irregular fevers. (*b*). Fevers due to a parasite, the evolution of which is accomplished in two days. If there is in the blood one or two generations of the parasite that ripens within an interval of one day, we have simple tertian, or duplex tertian, another category of quotidian and other irregular fevers. (*c*). Fevers, the pathogenesis of which is connected with parasites having their seat principally in the internal organs, when their cycle is evolved. These fevers are manifold and irregular types. To this class belong the fevers connected with the sickle-form bodies. In group (1) microscopical examination of the blood in every stage of the clinical course gives a positive result, but this is not so in the second class.

H. A. West views dysentery not as a morbid entity, but as including a group of inflammations of the large intestines, and suggest the division into

acute catarrhal, acute diphtheritic, amœbic, and secondary forms. Amœbic dysentery is, he thinks, more common than is generally supposed. The amœba probably enter through impure water. Chaltin is of the opinion that the combination of the colon bacillus and the proteus bacillus was the essential cause of an epidemic of dysentery which he studied.

Hodenpyl, in twenty-four cases where bacteriological studies had been made, found the bacillus coli communis in the exudate in all. In only two cases was it associated with any other micro-organism—once with the bacillus pyogenes fœtictus and once with the steptococcus. While it seems that several species of bacteria may act as exciting causes, the bacillus coli communis is most important.

Since 1837 many bacteriologists have reported discoveries of micro-organisms producing syphilis. In 1870 Klebs claimed to have found, and to have succeeded in making cultures of such organisms. In 1882 Birsch Hirschfield made a similar discovery, but until 1884 no one succeeded in detecting a constant form; and as no attempt was made to inoculate animals the results were contradictory and unsatisfactory. Late in 1884 Lurtgarten annouced that he had found baccilli in syphilitic tissue differing from other organisms. They closely resembled the tubercle baccilli but reacted to mineral acids, and had a knob-like swelling on their ends, and were 8 shaped. A year later Cornil stated that bacilli, reacting in the same way could be found in normal smegma, and Köbner said that while found in genital chancres they were absent from tissue from extra genital primary lesions. In 1892 Daehle claimed to have found parasite protozoa in syphlitic secretions. They are described as flagellate balls of various sizes possessing active movements and change of shape. Golasy, in 1894 claims to have found a polymorphous microbe in syphilis. In 1888 he described a short rod-shaped bacillus, resembling Koch's tubercle bacillus, which he found in ulcerating syphilitic vegetations. Two years later he found the identical bacteria in the blood of a patient who died during the acute stage of syphilis. Along with these short rods were also spores and jointed filaments 60 m long. These bacteria were similar to the leptothrix, or more closely allied to the cladothrix. Dilute nuclein from the spleen of an unaffected subject, inoculated with syphilitic blood, produced pure cultures of his polymorphus bacteria. Spores and zooglea forms developed after a time. This condition exists in the blood when syphilis is in full evolution. These phenomena are observed in all diseases produced by the leptothrix and cladothrix such as syphilis, tuberculosis, and glanders.

Investigation made by Spano indicate that the seminal fluid of the tuberculous, may transmit the infection even when the genito-urinary tract is free from disease. Eight cases were observed—six of pulmonary tuberculosis, and two of tuberculous arthritis. In the former, and in one of the latter,

the spermatic fluid was obtained after death. In the remaining one it was obtained from an ordinary emission. All precautions were used to exclude disease of genito-urinary tract, and in three bacilli were readily found; in five not at all; in one after careful search. Intra-peritonal injection was successful in five out of seven cases. Cultivation experiment succeeded in three out of six instances. In the arthritic cases the fluid was not infectious. Loude, Kokel, Goldschmidt report cases of intra-uterine infection of children —proven by inoculation experiments—most virulent where placental tissue was used. Prudden suggests that the permeation of cavities in tuberculous lungs may be due to secondary infection with other germs—experimental studies on the rabbit showing that the introduction of cultures of the streptoccocus pyogenes into lungs already the seat of extensive tuberculous consolidation and necrosis is followed by the formation of cavities, and not an increased amount of exudation pneumonia. Strauss, of Paris, however, claims that in thirteen cases with hectic fever, carefully examined for micro-organisms, none could be found, and that while tubercle bacilli introduced into the veins of the Guinea pig is followed by acute miliary tuberculosis of the lungs, the introduction of micro-organisms into the trachea is followed by broncho-pneumonia with caseation and the formation of cavities, tubercle bacilli exclusively being found in the lesions. Hueguenin, of Turich, believes with Prudden and insists upon the importance of secondary infection. Law, of Cornil University, contends that cooked meats and milk form tuberculosis. Animals are dangerous on account of chemical poisons generated by the tubercle bacilli. Ho cites cases where invalids drinking such milk suffered, but improved on its withdrawal. Calves fed on tuberculous milk were in bad case, but did well on solid food—when grown and slaughtered, old, calcified tubercles were found. Huchard quotes Potain as having observed a constant co-existence between mitral narrowing and pulmonary tuberculosis in a large number of cases. It is believed that all diseases of the heart leading to pulmonary congestion retard the evolution of tuberculosis of the lungs, while such diseases leading to pulmonary ischæmia favor the development of tuberculosis of the lungs. Heckner states that 147 children up to 15 years out of 700 in post-mortem examinations at the Munich Pathological Institute, were tuberculous. The glandular system was affected in 92 per cent., of the cases, the lungs were next in frequency. Tuberculosis was more frequent after than before the fifth year. Valland maintains that tuberculous infection of the lungs in later life is secondary to tuberculosis of the lymph glands in childhood. In 101 of 108 tuberculous individuals he found enlarged cervical glands. Among 2,506 persons examined enlarged cervical glands were found between the ages of 7 and 9 in 96 per cent.; between 10 and 12 in 91.6 per cent.; and between 14 and 15 in 84 per cent.; between 16 and 18 in 69.7 per cent.; and between 19 and 24 in 68.3 per cent.

Tubercle bacilli were found in the cervical lymph glands in about 68 per cent., of adults. Loude and Petit report the case of a girl who died at the age of 25 with ulvular tuberculosis. At the autopsy the lungs were found to be full of caseous nodules; on the mitral valve were found several vegetations; these showed tubercle bacilli on microscopical examination. Inoculation of a Guinea pig proved successful. Loisen and Simorin conclude that there is no antagonism between enteric fever and tuberculosis. In 114 typhoid cadavers tuberculosis was found five times. Typhoid fever may hasten the manifestation of pre-existing tuberculosis, or the latter may remain latent and only be discovered by autopsy. Martin-Durr raises the question as to the relation between mitral stenosis and pulmonary tuberculosis. He has seen fourteen autopsies when the two were combined. The tuberculosis was arrested. Pilliet says that localized tuberculosis of the cæcum may simulate malignant tumor, and lead to operation.

Przewski attributes the origin of gastro-tuberculosis to the local action of expectoration swallowed by phthisical patients. As predisposing causes, are to be considered (1) chronic gastritis with diminished acidity of gastric juice (2) a great number of lymphatic nodules in the pyloric and cardiac region of the stomach (3) the continued presence of expectoration in the stomach (4) accidental erosion of the gastric mucous membrane. Cadier, of Paris, says that in cases resulting from cohabitation with tubercular subjects the upper parts of the larynx is first attacked. Schnitzbo claims that bacillary propagation is from within, and bases his statement upon observed facts, such as (1) cases with scarcely a bacillus in the sputum, but extensive laryngeal invasion—(2) pulmonary tuberculosis without laryngeal complication (3) the correspondence of side between the lung and laryngeal lesion tending to prove blood and lymph carriage (4) the presence of a stratum of healthy tissue between the mucous membrane and the diseased structure. S. E. Sally, of Colorado Springs, is convinced that the majority of cases of laryngeal infection are of deep origin and only the minority are infected by the passing sputum.

Herzog claims that tuberculosis of the nasal mucous membrane is, generally, secondary to pulmonary and laryngeal phthisis. Baner, of Muremburg, reports a case of tuberculosis of the diaphragm and attributes the involvment to contact of contaminated saliva swallowed.

Dr. Wolfenden reports a case of early syphilis which eventually developed tubercle and ended in epithelioma and death. In the microscopic specimen there was distinct hystologic evidence of syphilis in the cells and tuberculosis. In one section there was a tubercle with tubercle bacilli underneath an epitheliomatous tissue.

Ecnethoren ascribes the characteristic paroxysm of asthma to spasm of the bronchi impeding respiration. This produces an excess of $CO^2$ in the

blood, which causes abnormal stimulation of the vagi. This action and reaction are further influenced (1) by the reciprocal efforts of an accumulation of $CO^2$ in the central nervous system and a retardation of the circulation; (2) by the rapid production of $CO^2$ in the organism, in consequence of the powerful efforts required for the movements of respiration.

Ashton concludes that rheumatism may produce endocarditis, even when the disease causes no evident disturbance of the functions of the joints.

G. Hoppe-Sayler, of Keil, reports a case of diabetes mellitus in which the post-mortem showed both microscopical and macroscopical changes in the pancreas. He explains how disease of the pancreas can lead to diabetes mellitus thus: The pathological process first attacks the arteries; their walls are thickened, their lumen narrowed or altered. In consequence there follows a lack of nourishment in the part supplied, a thickening of the connective tissue about the acini of the gland, with degeneration and loss of glandular tissue. In like manner as these tissues increase the inter-acinus fat-tissue increases; it increases rapidly until the pancreas reaches a size larger than the normal. Thus the pancreas loses its functional power in much the same manner as is seen in progressive muscular atrophy, with fatty degeneration. After the pancreas loses its functional power diabetes mellitus comes on. Obici reports two, Stiner one, and Williams fifteen cases of diabetes mellitus with diseased pancreas.

Several writers, among them Dr. D. T. Tayloe, of our own State, claim that rheumatiam is due to a micro-organism; but they fail to make microscopical demonstration of the fact.

Sir William Savoy, of London, says: "In gout, no doubt, the process of nutrition is primarily at fault, and conspicuously that part of it which consists in the retrograde chnanges and elimination of tissue products.

Oxidation, in its various stages and degrees, is not thoroughly carried out, and the products of the waste and decay of the tissues, not being sufficiently transformed, linger in the blood and system, and appear to take an active p .rt in the disturbances which arise. Da Costa sustains this view, and adds that the blood may be yet further poisoned by ptomaines resulting from imperfect gastric and intestinal digestion.

Hunter ranges the causes of chronic nephritis under the following heads: (1) Chemical poisons; (2) infectious poisons; (3) constitutional or nutritive conditions; (4) diseases of the lower end of the ducts of urinary secretion; (5) obstruction in the circulation; (6) pregnancy; (7) psychical causes; (8) heredity; (9) cold and climate.

Harnet admits the possibility of nephritis and uræmia in chlorosis from disturbance of nutrition and the excretion by the kidneys of incompletely oxydized products. Renal arterial aphasia of chlorosis, over-feeding, bad hygeine, hepatic insufficiency, pregnancy, etc., may favor the development

of this uræmia. Foster, also, believes that such associated conditions are necessary to cause the appearance of uræmic convulsions in Bright's disease. Rothman concludes that blindness in grave nephritis, with or without other symptoms of uræmia, is peripheral in nature and due to œdema of the optic sheath. A. Maude says exophthalmic goitre is due to the production or non-elimination in the thyroid itself of some toxin which acts on the whole nervous system. The exact rôle played by the thyroid change is hard to know. All cases show two common factors—cell proliferation and diminution of colloid. We are in the dark as to whether this morbid change is primary or secondary to some vaso-motor disturbance elsewhere, and also as to whether the altered thyroid secretion will produce the same effect on a healthy nervous system. Probably some nervous systems are more susceptible than others to this toxic influence just as they are to alcohol and lead. Holstein lays stress on the neurotic origin of eczema. Nikolski, in a paper, calls attention to the intimate relation between the nervous system and the skin, and argues that, as an organ of sensation, it must have a trophic centre, situated either in the posterior cornua of the gray substance of the cord, or in the inter-vertebral ganglia. He cites cases when eczema is coincident with analgesia, anesthesia and slight diminution of sensibility of touch in upper extremity. Ravogli believes that the staphylococcus pyogenes albus is a cause of eczema, and Jacob Bernheim asserts that the microbes of eczema may penetrate to the internal organs and produce death. Unna considers the cause of seborrhoic eczema as microbic, and defines two species—the flask bacillus (Malissey's spores) and the micrococci (Mulburg's cocci). The former congregate in the hairy parts, the latter on the body.

In six cases of cystitis Huber found the streptococcus pyogenes in one—the urine was acid. Mudin found in twenty-one cases micro-organism in all but one, that being a tumor of the bladder. Ten varieties were noted.

He denies that the microbes first cause decomposition of the urine and that the ammonia irritates the mucous membrane, and fits the void for the soil for the multiplication of bacilli. He claims that cystitis, with acid reaction of urine, is more common than alkaline, and proves by experiment that sterilized urine containing considerable ammonia does not produce cystitis. He shows that the microbes do not enter the bladder with the catheter, but can gain access through the kidneys, the rectal walls, etc., etc.

Strumpell says the greater part of the intestinal inflammations of moderate or great severity arise from infectious causes. To investigate this point Mills examined stools from seventy-three cases of diarrhœa, only three of which seemed to have no infective causal agent. He met with Koch's spirilium choleræ Asiaticus 11 times; spirilium Franklini 14 cases; bacillus coli communis 55 cases; bacillus typhin 11 times; bacillus fluorescens liquefaciens 20 times; diplococcus Franklini 4 cases; staphylococcus pyogenes 1

case. The bacillus coli communis was found more often than any other bacterium. It often acted alone, not only irritating the intestines, but also in a general infectious way, the cases tending to chronicity and severe relapses. Most of the simple diarrhœas are due to combination of the colon bacillus and sopophlytic bacteria (bacillus fluorescens liquefaciens) the fevers being of shorter duration than that caused by the colon bacillus alone.

Blindeman has found that in gastric carcinoma the hæmoglobin is greatly reduced, the number of red blood corpuscles diminished and the white corpuscles almost always augmented: in gastric ulcer, whilst hæmoglobin and the red blood corpuscles are equally reduced, the white corpuscles are not modified in number. In chronic gastric catarrh with marked ectasia no alteration is found in the blood. Such results may render the differential diagnosis easier.

Acute yellow atrophy of the liver, according to McPheden and McCullen, is due to the presence of a poisonous element of the nature of a chemical compound, probably an abnormal albumin, resulting from deranged or putrefactive processes in the intestines, absorbed by capillary radicles of the portal vein and carried to the liver, where it first meets the hepatic cells at the periphery of the lobules, bringing about their destruction. The destruction once begun is continued in the remaining cells of the lobules more or less affected by the poison, and is assisted by the absorbed secretions, and the impossibility of the liver cells, in some cases, to throw their secretions into the already over-distended bile-capillaries.

MICROSCOPY.

Formalin is recommended by Bergenzoli, Blum and Reiner as an almost ideal agent. Used in 4 and 10 per cent., solutions, its penetration is greater than alcohol, sublimate or Hermann's fluid. No perceptible shrinkage occurred, both nuclei and cell-bodies were well preserved and the tissues stained brilliantly by the ordinary methods, and by them for bacteria. Twenty-four hours immersion was sufficiently long to fix comparatively larger portions of tissue, and no injury results from a longer soaking. The specimens may then be washed in water, and dropped immediately into alcohol of different strength, absolute alcohol answering as well as weaker. Its cheapness makes it desireable; a 4 per cent., solution costing only 12 cents a quart. The iodine test for amyloid degeneration has been improved by Galeote in this manner—sections of alcohol–hardened tissue, thoroughly washed in water to remove alcohol, are immersed for twenty minutes to half an hour in a 5 per cent., solution of potassium iodide, then rather quickly washed in water, then placed in chlorine water. The chlorine replaces the iodine in the salt, and the iodine is liberated, staining the amyloid of a deep mahogany-brown, while the tissues remain almost colorless. Finally the tissues are again washed in water, and are preserved in glycerine.

A method of quick examination of pathological tissue has been devised by Cullen. By his method he has been able to make satisfactory sections in fifteen minutes. Frozen sections are first made and collected in normal salt solution. They are then immersed for five minutes in a 50 per cent., solution of formalin, for three minutes in 50 per cent., alcohol, for one minute in absolute alcohol; then washed in water and stained in hæmotoxylin and eosin after the ordinary method; are dehydrated, cleaned and mounted in balsam. The difficulty attending this method is that the blood is lost. By a somewhat longer process this may be avoided. Small pieces of the tissue to be examined are immersed in a 10 per cent. solution of formalin for two hours. Frozen sections are then made and are carried through 50 per cent. alcohol (absolute alcohol), water, hæmotoxylin, etc., as before.

Spaengler recommends the digestion of sputum with pancreatin when the bacilli are in small numbers. Equal parts of sputum and lukewarm water are thoroughly mixed with from 2 to 15 grains of pancreatin and are allowed to digest at the body temperature for from two to three hours, when a few drops of strong carbolic acid are added to prevent outrefaction. A sediment quickly forms. The supernatant fluid is poured off, fresh alkaline water is added and a further digestion in the incubator allowed. The sediment, after this second digestion, is smaller. It is collected on filter-paper and is examined in the usual way for the bacillus tuberculosis. By this method the sediment from a day's sputa is so small, as a rule, that a few cover-glass preparations only are needed for its thorough examination. There is no impairment of the staining qualities of the bacilli, and Spangler has found this a quick and reliable method when the bacilli are in small numbers. It is, ofesc,our unnecessary when they are abundant.

# REPORT OF THE SECRETARY OF THE NORTH CAROLINA BOARD OF HEALTH.

RICHARD H. LEWIS, M.D., Raleigh, N. C.

The past year has been, I am happy to say, an uneventful one in sanitary matters. No epidemics of disease have occurred, and small-pox, which has prevailed, more or less, over the whole country, has passed us by entirely. Fortunate, indeed, is it that we have escaped such a visitation, for immense numbers of our people remain unvaccinated, and your Secretary frankly admits that he cannot devise any method of bringing it about. The only hing that seems to have any effect whatever is the actual or supposed presence of the disease in a community, and whenever a scare is heard of the Superintendent of Health is urged to utilize it to the fullest extent and vaccinate as many as possible.

But while our work has been chiefly routine, I believe it has been the most effective in the history of the Board. It has consisted, in large part, in continuing the distribution (already inaugurated at our last meeting) throughout the state, in various ways, of the health pamphlets with which you are familiar.

In compliance with your instructions, I added to the pamphlets published up to that time the excellent paper read before the Salisbury Health Conference by Dr. A. R. Wilson, of Greensboro, on "The Importance of Disinfecting the Bowel Discharges in Typhoid Fever," supplementing it with the section of the law bearing on that disease, and a short account of the famous Plymouth epidemic. Acting upon the authority given me at our last annual meeting, I had printed 20,000 copies each of these articles: "Prevention of Tuberculosis," "Drinking Water in Its Relation to Malarial Diseases," and "Instructions for Quarantine and Disinfection," and have distributed nearly all of them. They have been sent to all the newspapers in the State, all the physicians, all the lawyers, nearly all the ministers, white and black, public officials, State, county and municipal, the more prominent teachers, and to numerous individuals whose names were sent to me in response to the circular letter enclosed in every package, asking the reader to send me the name and address of every one he thought would read them. As the Board has very wisely, in my humble opinion, in our present stage of sanitary development, determined to direct its efforts mainly to interesting and educating the people in the principles of preventive medicine and impressing upon them the advantages to be derived from a strict observance of the laws of health; and, as large numbers of our public school teachers, farmers and merchants have not yet seen them, I would respectfully suggest the advisability of printing another edition of at least 20,000 more.

It would be well to supplement the publications named above with the

excellent papers on "Impurities in Drinking Water" and "Sanitary Drainage and Disposal of Household Wastes," read at the Washington Health Conference by Dr. F. P. Venable and Mr. J. C. Chase, respectively, and perhaps also with the article on "The Care of the Eyes and Ears," as it was stereotyped by my lamented predecessor and the cost of paper and press-work would not be great. Since it is desirable that instruction should be given in all the subjects treated, and as our plan has been to send a complete set to every one, even if he asked for only one, it would be less expensive and more satisfactory in every way to have them all bound together. We can doubtless have the literature intended for the teachers of the public schools distributed by the Superintendent of Public Instruction without cost to the Board, which would mean a very considerable saving in postage.

In this connection you will be interested to know that in September last I received a letter from the Rev. Phillips Verner, of South Carolina, a worthy grandson of the late Charles Phillips, D. D., for so many years the distinguished Professor of Mathematics in our University, who expected to go shortly as a missionary of the Presbyterian Church to the Kassai river country, in the Congo Free State, asking for the publications of our Board on the subject of malaria, and promising to send us the results of his observations and experience in that pestilential valley. If it should turn out that the saving of the life of even one of the noble men who have taken their lives in their hands for God and humanity is accomplished, we might well feel that our labors have not been in vain.

Whether it be attributable directly or indirectly to our stirring of the waters, it is none the less a gratifying fact that a Social Science Club established at Trinity College has taken up the subject of sanitation. The request of its Secretary for any literature we might have was, it goes without saying, gladly honored to the fullest extent of our ability, and our satisfaction was still further deepened by reading in the papers an excellent article on the general subject by Professor Dowd, the President of the Club. It is to be hoped that all our institutions of learning will, as years go by, while not relaxing their efforts for the development of the "*mens sana*," lay more and more stress on the "*corpore sano*," not only by a judicious encouragement of athletics, but by giving instruction as to the means of preventing those ills to which all flesh is heir and before which the strongest athlete, when once in their clutches, is liable to be "downed" forever.

### HEALTH CONFERENCE AT WASHINGTON.

On November 6th the second Health Conference with the people was held at Washington. Like the first, at Salisbury, in September, 1894, it was quite a success. A number of papers were read and discussed. One of these, on "Preventive Medicine," by Dr. J. C. Rodman, was published in

the NORTH CAROLINA MEDICAL JOURNAL, and the others, with the exception of Mr. Chase's, on "Sanitary Drainage and Disposal of Household Wastes," have already appeared in the *Bulletin.* This last will be printed in our next issue. The profession of the town and vicinity and the citizens evinced much interest, as was shown by the fact that the hall was filled literally to overflowing, many being turned away for want of room—an occurrence most gratifying and unexpected, for, as we were constrained to say in a notice of the meeting in the *Bulletin* for November: "We never expected to live to see the day when people in North Carolina would be turned away from a health meeting for want of room." Those present still further showed the sincerity of their interest by the questions they asked. While the influence of these meetings does not visibly extend beyond the immediate community where they are held, they do undoubtedly, from assurances to that effect we have received, make a decided impression within those limits. And if we can bring our larger towns to a realization of the importance of sound sanitary laws well administered, we shall surely accomplish great good. In order to extend more rapidly this form of work, it might, perhaps, be well to supplement the Conference of the whole Board with the people of the larger cities and towns by having small committees from the Board hold what might be properly called Health Institutes in the smaller places.

### NATIONAL CONTROL OF SANITARY MATTERS.

The following correspondence on this subject between His Excellency Governor Carr and your Secretary, explains itself. It should, however, be stated that an expression of opinion from the Board, in its corporate capacity being impossible, the views given are merely those of the writer:

STATE OF NORTH CAROLINA, EXECUTIVE DEPARTMENT,
RALEIGH, January 11, 1896.

DR. RICHARD H. LEWIS,
Secretary N. C. Board of Health, Raleigh, N. C.

*Dear Sir:*—I am instructed by the Governor to enclose you a letter from Joseph F. Edwards, asking for brief expressions on the advisability of a National Code of Sanitary Laws, etc. The Governor would be glad if you will give him your views in regard to this matter.

I have the honor to be,
Yours, very truly,
S. F. TELFAIR,
*Private Secretary.*

NORTH CAROLINA STATE BOARD OF HEALTH,
OFFICE OF THE SECRETARY, 217 N. Wilmington St.,
RALEIGH, N. C., January 14, 1896.

HIS EXCELLENCY, GOVERNOR CARR.

*My dear Sir:*—In reply to your communication enclosing a circular letter from Mr. J. F. Edwards, Editor of *The Annals of Hygiene*, and requesting an expression of my views upon the question, "Should we have a comprehensive State or National Code of Sanitary Laws, designed to promote the health of the people, the observance of which should be made compulsory and their infringement made punishable, or should we be satisfied with efforts to educate the people up to the importance of a voluntary observance of sanitary laws? Should we compel or coax obedience to the laws of health propounded therein?" I beg to say:

The State can have no higher duty than the protection of the life and health of its citizens, and it should, therefore, exert all its powers to promote that end, so that in my opinion, it should employ both compulsion and education—the latter always and everywhere, and the former whenever practicable. In a city with a well-organized and equipped health bureau, with a strong police force to back it up, sanitary laws might be fairly enforced in the face of an adverse public opinion (until the next election), but in a sparsely settled rural community, like our State, for the most part, any law unsupported by public opinion would be a dead letter. At the same time the very existence of such laws upon the statute books would have an educational influence, and attempts to enforce them would stir up the people, excite interest in, and discussion of, the subject, and open their minds to the importance of, and need for, such laws. The few that we now have relating to contagious diseases, the contamination of water-supplies, etc., have undoubtedly advanced the cause of the public health, although I have never known of a single person's being punished for the violation of one of them. This is especially true of our cities and towns.

Our own State Board of Health, having only advisory powers, has devoted itself to the education of the people by the distribution of literature of a practical character, and by holding "health conferences with the people," and I am gratified at the assurance from various quarters that we have made a distinct and favorable impression upon the public mind.

I am opposed, personally and officially, to the interference of the General Government in our local affairs, sanitary or otherwise, except upon request, in times of emergency beyond our power to meet.

With great respect, I am,
Very truly, yours,
RICHARD H. LEWIS, M.D.,
*Secretary.*

VITAL STATISTICS.

Realizing that vital statistics, unless accurate, are practically worthless, and being convinced from the figures given that the reports sent in from some our towns were incomplete, I made an effort to secure greater accuracy by sending the following circular letter to all the health officers making reports:

NORTH CAROLINA STATE BOARD OF HEALTH,
OFFICE OF THE SECRETARY, 217 N. Wilmington St.
RALEIGH, N. C., November 1, 1895.

*Dear Sir*:—Vital statistics, to be of any value, must be accurate. The only vital statistics obtainable in our State are the mortuary reports from the cities and towns. Some of these reports bear upon their faces evidence of inaccuracy—incompleteness. It is not just to the towns making full reports and giving the real death-rate that they should be placed in the same category with those which do not. I therefore propose, beginning with the December reports, to print in bold-faced type those reports which are vouched for by the officials making them; and to call attention to that fact in a foot-note, so that any one examining the tables may know which are reliable. If you wish your reports to go into the higher class do not fail every month, to have their accuracy vouched for by the proper official over his own signature.

I would respectfully call your attention to the fact that reliable mortuary statistics are unattainable, in the cities and larger towns, otherwise than by a rigid enforcement of an ordinance forbidding, under penalty, the burial or removal of a dead body without an official permit based upon a duly executed death-certificate. I enclose model ordinance and sample blanks, that they may be of assistance.

Your cordial co-operation in this matter is earnestly desired.

Very truly yours,
RICHARD H. LEWIS, M.D.,
*Secretary.*

The certificate printed at the bottom of every mortuary blank that the health officer was required to sign to secure the placing of his town in the list of those regarded as making reliable reports, was this: "I hereby certify that this report gives the *whole* number of deaths occurring within the corporate limits during the above month." Notwithstanding this there are still three or four towns which, for one reason or another, have not complied with this requirement, and have in consequence to be enrolled in the second class. It is to be hoped that this will be remedied. Owing to the fact that we are so largely a rural population our only opportunity to obtain vital statistics is afforded by our towns, and in these days of scientific accuracy mere assertions as to the healthfulness of our State do not satisfy the intelligent inquirer.

## COUNTY BOARDS OF HEALTH.

It is with much regret that I am compelled to report a discouraging amount of indifference in a good many localities on this subject on the part of the members of the profession. In a number of counties at the regular biennial meeting, on the first Monday of September last, a legal quorum could not be obtained. And this, too, in spite of a circular letter sent with the notice of the meeting (required of me by the law) to every registered physician in the State, calling attention to the decision of the Attorney General to the effect that no action on the part of the boards would be valid

unless a majority of all those eligible to membership participated, and urging upon the readers the importance of selecting their own superintendent of health, and not allowing the privilege to lapse into the hands of the county commissioners. While in many instances the commissioners elected superintendents, in at least one instance that has come to my knowledge they took advantage of the opportunity to give the place to the lowest bidder, thereby reducing the salary, that had been $250, to $50, and in others they went still further, and refused to elect any superintendent at all. As a consequence of this the number of counties having superintendents of health has been reduced from 90 to 86. At one time there were 91 counties having superintendents, but in Graham, before the last election, the superintendent left the county and no successor has ever been elected. Camden, Currituck, Hyde, Pamlico and Washington have never organized county boards, notwithstanding repeated efforts on my part to accomplish it. The chairman of the board of commissioners of Pamlico, who was the only one replying, stated that they could not find a physician who would accept the office. Why, he did not say, but probably because of the small pay offered in that small county. Since September 1st, 1895, for different causes, the county superintendent of health has been discontinued in Chatham, Gales, Henderson and Jones. This retrogression, as a fact, is discouraging, but the mental or moral attitude of the authorities towards sanitation and the proper care of the poor and of the prisoners is yet more so. There is only one way to remedy this condition of things and that is by educating public opinion. As mentioned above, the Board is trying to do this itself, as far as the means at its disposal will allow. But no influence can be brought to bear comparable to that of the family physician. If the members of the profession would cordially co-operate with the Board and show to their patients an active interest in hygiene and impress upon them the value and importance of its laws, great things could be accomplished. Can we not obtain that help? Are not our medical men, admittedly among the best educated in the country, sufficiently enlightened and humane to lend their interested aid to so grand a cause as the wholesale saving of life? We can but believe that the cause of this indifference on the part of so many—not all, by any means—is simply thoughtlessness—they have never considered the question seriously. We sincerely hope for better things from them. While these discouragements and others press upon us there is no question that the public mind has been appreciably awakened, and that the people of the State, as a whole, are much more interested in, and alive to the importance of, preventive medicine than they were twelve months ago. We have not been standing still.

## OBITUARY.

### A. B. Pierce, M.D.

Dr. A. B. Pierce was one of Weldon's (Halifax county, North Carolina) best citizens, and a noted and useful physician.

Fate has so decreed that those whom we esteem and admire most, and who are worthy, useful and noted, must finally "pass over the river to rest in the shade of the trees." And so has it been with my old and noted brother physician and esteemed friend, Dr. Alexander B. Pierce.

Two years ago Dr. Pierce had a severe attack of la grippe, from the effects of which he never regained his normal health. After the acute attack had passed off, he began to show signs of rapidly declining vigor and manhood. This terrible disease seemed to have spent its force and deleterious effects upon the nervous system, and soon softening of the brain, with all its attending symptoms of exhaustion, palsy and a tendency to paralysis were developed. He continued to grow worse, until he became so feeble that he was confined to his room and bed, where he was forced to remain until the messenger (death) came to relieve him of his maladies and pains.

Although he had the combined skill, consultation and treatment of several of his medical brethren and the kindest, most gentle and best nursing of his family and friends, yet nothing seemed to stop the ravages of his fatal disease. The embers of his pure and noble life continued to burn out, and on the 21st day of February, at 1:45 o'clock p. m., in the 73d year of his age, in the presence of his estimable and sorrow-stricken family and a few friends, who stood with bowed heads and weeping eyes around his death-bed, the brain, the great battery of the nervous system, which once gave him intellect, energy, vigor and manhood, failed to work; his generous heart ceased to beat, his bosom to heave, his pure blood stood congealed in his veins; the last fibre in the vital cord that bound him to earth had been burned asunder, and this grand old man—this efficient and experienced brother physician—this faithful, consistent Christian gentleman, was dead—dead, with his last words resting upon his lips:—"It is well with my soul."

> "Dead—from toils, strifes and woes—
> Dead—from family, friends and foes—
> Dead—but he will live again,
> In Heaven, with Jesus, free from pain."

His soul had flown to Jesus to make angels glad and to await its final coronation, with the blessed benediction of—"Well done, good and faithful servant." It was the privilege, as well as the duty of the writer, though a sad one, to render medical services to Dr. Pierce during his last illness, and it was his mortification to see his remedies fail and his sorrow to see him

die—to see the last spark in his feeble life go out and fade away like the last beautiful rays of an evening's setting star. So sweetly, so gently did his life ebb away that scarcely anyone present saw or heard his last gasp of vitality. And so died a true, devoted Methodist.

In 1844 he took his last degree at Randolph Macon College, and in 1846 was graduated in his profession from the renowned medical college of the University of Pennsylvania at Philadelphia. Returning to his native county (Halifax), he began the practice of medicine, in which profession he took great interest. For fifty years he did a lucrative, thorough, laborious practice. No man ever worked harder or did more charity work in alleviating human suffering among the sick and afflicted. He never turned a deaf ear to the appeals of the sick, suffering poor, who were unable to reward him for his services. Night or day, in rain or scorching sun, he could be found at his post of duty. This can be verified by hundreds of the citizens, both white and black, of middle and western Halifax county, where he did the most of his work, and the people of these sections will greatly miss him, will deeply deplore his loss, and the sad intelligence of his death will enter their homes and will make many hearts to throb with sorrow and fill many an eye with grief's silent tears.

In 1858 he married the lovable and accomplished daughter of W. C. Williams, of Virginia, and by her raised up a large family of sons and daughters, all of whom are among our best citizens and most prosperous business men and women of the town of Weldon. As a husband he was a true and devoted man; as a father, one has but to see and know his estimable sons and daughters and to admire their deportment, their accomplishments and their usefulness.

During the professional career of Dr. Pierce he had the honor of holding several offices of trust. For a number of years he was, by appointment and election, medical superintendent of public health, and had charge of the county home for the poor, which offices he held with efficiency and satisfaction. He was once President of the North Carolina State Medical Society, and at another time was elected as Orator for the same Society, both of which honors he filled with ability, reflecting not only credit upon his native county, but honor and dignity upon the medical profession of North Carolina.

The writer was intimately associated with Dr. Pierce, and can truthfully say that he never knew a more conscientious man or Christian gentleman, and can endorse the remark of one of his friends, when he heard of his death, that "a good man had gone—God never made a better." He possessed a mind well stored with theoretical teachings, as well as useful, practical experience of sixty years. When aroused, he was a commanding and forcible speaker, as well as a clear and effective writer, bold and decided in his convictions and judgment, yet as retiring, modest and sensitive as a

woman, always contending on the side of right and justice; a true patriot and a staunch democrat. There was nothing small or narrow in his composition, no shade of malice, selfishness or envy in his heart, generous and magnanimous to a fault, even to the detriment of his own good and that of his family's prosperity. He was the very soul of honor and benevolence, and devoted his whole life to the uplifting and alleviation of the sorrows and downfalls of his fellowman—even careful of the truer and Divine attributes of man, humble submissiveness and earnest devotion to his Maker—looking always with faith and hope in the everlasting promises of the Above, as manifested by God in the Cross of the Lord Jesus Christ. Oh! what a beautiful life to live, and what a consolation for one, at the end of life, to believe and to know, as did Dr. Pierce, that he had exemplified his hope and faith in the long line of tracks he leaves behind, and can say when the messenger death comes: "It is all right with my soul."

Noble Christian hero, fare you well. Brother physician, may blessings and peace go with you, and may He who has taken you from earth console, protect and guide the dear bereaved ones, and bring you together again at the final resurrection morning, is the prayer of your sorrowing and once devoted friend and brother physician.

A. R. Zollicoffer, M.D.

## R. H. Stancell, Jr., M.D.

Robert Henry Stancell, Jr., only child of R. H. Stancell and Annie Summerell Stancell, was born May 26th, 1872, died January 23d, 1896.

He graduated at the University of Maryland with the highest honor at the age of 20 years, and when only 12 years old had committed to memory nearly the whole of Gray's Anatomy.

He was especially fond of surgery, and was made chairman of that section in the Medical Society in 1894.

He joined the Medical Society in 1893, and in 1895 was Essayist.

Dr. Stancell had a bright future, and if he had lived would have no doubt been a pride of the South.

## L. L. Sasser, M.D.

Dr. Lewis L. Sasser, son of R. L. and Elizabeth H. Sasser, was born January 16th, 1860, and died February 23d, 1896. He graduated at the University of Virginia in 1883, and, after a Post-Graduate course at Bellevue Hospital Medical College in 1894, located at Smithfield, N. C.

He joined the Society in 1885, and leaves a wife and four children.

# CONSTITUTION.

## ARTICLE I.

### TITLE OF THE SOCIETY.

The name and title of this Society shall be "The Medical Society of the State of North Carolina."

## ARTICLE II.

### OBJECTS OF THE SOCIETY.

The objects of this Society shall be the advancement of medical knowledge, the elevation of professional character, and the promotion of all measures of a professional nature that are adapted to the relief of suffering humanity, and to improve the health and protect the lives of the community.

## ARTICLE III.

### MEMBERS OF THE SOCIETY.

SECTION 1. This Society shall consist of Active and Honorary members, and Honorary Fellows.

SEC. 2. The Active members shall consist of such regular physicians as have complied, or shall comply with the laws of the State, ratified February 28th, 1889, and shall receive the approval of the Committee on credentials and a two-thirds vote of the members present at the meeting at which their applications for membership are presented. They shall be required to sign the Constitution and By-Laws of the Society, pay an initiation fee of five dlloars, and shall be liable for such dues for defraying the expenses of the Society as the Society may, from year to year, agree upon.

SEC. 3. The Honarary Members shall consist of such regular physicians as have won distinction by their contributions to medical science; those elderly physicians who, prior to their retirement from practice, have displayed a proper interest in the welfare of this Society, or who, by their example, have reflected credit and honor upon the profession. They must receive a two-thirds vote of the members present at the meeting at which their names are presented for election. They shall be exempt from all dues and fines and shall be entitled to all the privileges of the Society except the right to vote and hold office.

SEC. 4. The Honorary Fellows shall consist of such physicians as have been members of this Society for thirty years, and whose dues have been paid during that time. They shall receive a two-thirds vote of the members present at the meeting at which their name is proposed for promotion. They shall be exempt from all dues and fines and shall be entitled to all the privileges enjoyed by active members in good standing.

## ARTICLE IV.

### OF THE OFFICERS.

SECTION 1. The officers of this Society shall be a President, Four Vice Presidents, a Corresponding and Recording Secretary and a Treasurer.

SEC. 2. They shall be elected by ballot, on the afternoon of the second day of the meeting, a plurality of votes cast being sufficient for election, and shall serve for one year, except the Secretary and the Treasurer, who may serve for three years, or until his sucessor is elected.

SEC. 3. Any nominee for the office of President shall have been an active member of the Society for five years, including the year of his elections, shall have attended two of the three meetings immediately preceding his nomination, including the meeting at which he is nominated; and shall be a member in good standing at the time of his nomination.

## ARTICLE V.

### DUTIES OF THE OFFICERS.

SECTION 1. The President shall preside at the meetings, preserve order and perform such other duties as pertain to his office. He shall not be eligible for a second term.

SEC. 2. The Vice Presidents, in the order of their rank, shall assist the President in the performance of his duties, and during his absence, or at his request, shall officiate in his place. They shall not be eligible to two terms in succession.

SEC. 3. The Corresponding and Recording Secretary shall conduct the correspondence of the Soc iety, and shall be the custodian of all papers belonging to the Society, except such as appertain to the Treasurer. He shall keep correct minutes of the proceedings of the Society, and shall place them in the hands of the Publication Committee within thirty days after the adjournment of the Society. He shall advertise in two of the leading papers of the State a month in advance all meetings of the Society; and shall, at the same time, mail to each member a notice of the time and place of the meeting, and shall perform all such other duties as usually appertain to his office. He shall receive such compensation as the Society may, from year to year, agree upon.

SEC. 4. The Treasurer shall receive all monies belonging to the Society, and disburse them as directed, preserving vouchers for the same. He shall present annualy a statement of the finances of the Society, which shall be referred to a committee of three members, who shall audit the same and report to the Society. He shall receive such compensation as the Society may, from year to year, agree upon.

## ARTICLE VI.

### OF THE BOARD OF MEDICAL EXAMINERS.

SECTION 1. All elections to fill vacancies on the Board of Medical Examiners shall be by ballot, a majority of the votes cast being necessary to elect. The election shall be held on the morning of the second day of the meeting.

SEC 2. In the case of vacancies caused by the expiration of term of office, the election shall be for six years, and shall be held during the meeting at which such terms of office shall expire. In the case of a vacancy caused by the death or resignation of a member, the election shall be to fill the unexpired term, and shall be held at the meeting during which the announcement of the vacancy shall have been made.

## ARTICLE VII.

### OF COMMITTEES AND THEIR DUTIES.

SECTION 1. A committee of three members to be known as the *Committee on Credentials* shall be appointed by the President at the morning session of the first day of each meeting. Their duty shall be to investigate the character and standing of all applicants for membership in the Society, and receive the credentials of any delegates from other State or District Societies, reporting to the Society the names of such physicians as they think proper. They may ask for instructions from the Society in any doubtful case. The report shall be in order at anv hour during the session.

SEC. 2. A *Committee on Finance*, to consist of three members, shall be appointed by the President at the morning session of the first day of each meeting. They shall examine the accounts of the Treasurer and report to the Society, making suggestions as to the amount of assessments for the coming year, the remuneration of the Secretary and the Treasurer and such other suggestions concerning the finances of the Society as they may think proper.

SEC. 3 A *Committee on Nominations*, to consist of five members, shall be appointed by the President at the morning session of the second day of each meeting. They shall nominate an *Orator*, an *Essayist*, a *Leader of Debate*, a *Committee on Publication*, an *Obituary Committee*, Delegates to the American Medical Association, the Virginia Medical Association, the South Carolina Medical Association, and such other associations as the Society may determine, all to serve one year; also a *Board of Censors*, to consist of three members and to serve three years.

SEC. 4. The *Board of Censors* shall investigate the professional status of any member of the Society which shall be called in question and presented to them by charges and specifications. Upon the presentation of such charges and specifications they shall organize a medical court, before which the case shall be tried: *Provided*, however, that such Board of Censors shall be empowered to reconcile differences between members before going into a trial

of the case. Should a case come to trial they shall make a report of their investigation to the Society, with such recommendation as they deem necessary and proper.

## ARTICLE VIII.

### OF THE SECTIONS AND VOLUNTARY COMMUNICATIONS.

SECTION 1. The newly installed President shall, at the last session of each meeting, appoint a member to serve as Chairman of each of the following sections, to-wit: Anatomy and Surgery, Therapeutics and Practice of Medicine, Physiology and Materia Medica, Obstetrics, Gynecology, Medical Jurisprudence and State Medicine, Pathology and Microscopy.

SEC. 2. At any time after the meeting the Chairman of each section may appoint three such members as he may select as his assistants to work up such items as he may designate, confining himself to the general advancement in his section.

SEC. 3. The Chairmen of sections shall send into the Secretary, not later than thirty days previous to each meeting of the Society, the titles of papers to be presented by themselves and their assistants to be used by the Secretary in making a programme for the meeting.

SEC. 4. No paper shall be read before the Society unless the author be present, unless his absence be due to some unavoidable circumstances. A paper presented by proxy may be referred to the Committee on Publication.

SEC. 5. No paper shall be referred to the Committee on Publication until it has been placed in the hands of the Secretary; and the Secretary shall not return any paper accepted by the Society without the consent of the Society, and then he shall take a receipt for the same.

SEC. 6. No paper shall be received by or read before this Society that has been presented to any other Society, or that has been offered for publication in any journal; and in the case of any paper accepted the author is supposed to have invested with the Society all rights to its ownership.

SEC. 7. No paper shall be published in the Transactions of this Society unless approved by the Committee on Publication; and any paper rejected by said committee shall be returned to the author through the Secretary of the Society.

SEC. 8. It is to be understood that the Society is not to be considered as endorsing all the views and opinions advanced by the authors of papers published in the Transactions of the Society.

## ARTICLE IX.

### OF THE FUNDS.

SEC. 1. Funds for defraying the expenses of the Society shall be raised by annual assessments on the active members.

SEC. 2. Each active member shall, after being duly elected and signing the

Constitution, pay the sum of five dollars as an admission fee, and be subject to the annual assessment of the Society, except for the year of his admission.

SEC. 3. Should an active member fail to pay the annual assessment two years in succession, he shall be notified by the Treasurer of his delinquency, and if, after this notice, he does not pay his arrearage within sixty days, the Treasurer shall send his name to the Secretary and the member shall not be entitled to receive the Transactions until all dues are paid.

SEC. 4. Should a member be in arrears for four years and fail to pay after due notice from the Treasurer, his name shall be dropped. *Provided*, he may be re-instated at any meeting after endorsement by the Committee on Credentials, and on the payment of five dollars; and so retain his place on the roll as formerly. But this payment shall not entitle the member to receive the volumes of the Transactions tnat he has forfeited.

## ARTICLE X.

### MEETINGS OF THE SOCIETY.

The Society shall hold its meetings annually. The time and place of meeting shall be determined for each succeeding year by a vote of the Society.

## ARTICLE XI.

### OF THE CODE OF ETHICS

The Society adopts, as a part of its regulations, that part of the Code of Ethics of the American Medical Association which is published by its order.

## ARTICLE XII.

### PROVISIONS FOR AMENDMENTS

Any proposition for amending this Constitution shall be presented in writing and shall lay over to be acted upon at the succeeding of the Society. If it receives a majority of the votes cast it shall be adopted.

# BY-LAWS.

OF THE ORDER OF BUSINESS.

1.—The President, or, in his absence, one of the Vice Presidents in the order of their rank, shall call the Society to order, or in the absence of all these officers a presiding officer shall be chosen by a majority of the members present.

2.—The appointment of a Committee on Credentials aud the Coumittee on Finance.

3.—Report of Committee on Credentials.

4.—Roll call.

5.—Reading of President s Message.

6.—Any business requiring early attention may, by permission, be introduced.

7—Correspondence shall be read by the Secretary.

8.—Written communications upon medical subjects may be read and discussed. This shall include reports from sections as arranged each year by programme.

9.—Oral communications may be read and discussed.

10.—Election of officers.

11.—The selection of a place for the next annual meeting of the Society.

12.—Unfinished business.

13.—Adjournment.

# CODE OF MEDICAL ETHICS.

## OF THE DUTIES OF PHYSICIANS TO THEIR PATIENTS, AND OF THE OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

## ARTICLE I.

### DUTIES OF PHYSICIANS TO THEIR PATIENTS.

SECTION 1. A physician should not only be ever ready to obey the calls of the sick, but his mind ought also to be imbued with the greatness of his mission, and the responsibility he habitually incurs in its discharge. These obligations are the more deep and enduring because there is no tribunal other than his own conscience to adjudge penalties for carelessness or neglect. Physicians should, therefore, minister to the sick, with due impression of the importance of their office, reflecting that the ease, the health and the lives of those committed to their charge depend on their skill, attention and fidelityr They should study, also in their deportment, so to unite tenderness with firmness, and condecension with authority, as to inspire the minds of thei. patients with gratitude, respect and confidence.

SEC. 2. Every case committed to the charge of a physician should be treated with attention, steadiness and humanity Reasonable indulgence should be granted to the mental imbecility and caprices of the sick. Secrecy and delicacy, when required by peculiar circumstances, should be strictly observed, and the familiar intercourse to which physicians are admitted in their professional visits, should be used with discretion, and with the most scrupulous regard to fidelity and honor. The obligations of secrecy extends beyond the period of professional services; none of the privacies of personal and domestic life, no infirmity of disposition or flaw of character observed during professional attendance should ever be divulged by the physician except when he is imperatively required to do so. The force and necessity of this obligation are indeed so great that profetsional men have, under certain circumstances, been protected in their observance of secrecy by courts of justice.

SEC. 3. Frequent visits to the sick are in general requisite, since they enable the physician to arrive at a more perfect knowledge of the disease—to meet promptly every change which may occur, and also to tend to preserve the confidence of the patient. But unnecessary visits are to be avoided, as they give useless anxiety to the patient, tend to diminish the authority of the physician, and render him liable to be suspected of interested motives.

SEC. 4. A phyitcian should not be forward to make gloomy prognostications, because the savor of empiricism, by magnifying the importance of his services in the treatment or cure of the disease. But he should not fail, on proper occasions, to give to the friends of the patient timely notice of danger when it realy occurs, and even to the patient himself, if absolutely necessary. This office, however, is so peculiarly alarming when executed by him that it ought to be declined whenever it can be assigned to any other person of sufficient judgment and delicacy. For the physician should be the minister of hope and comfort to the sick; that, by such cordials to the drooping spirit, he may smooth the bed of death, revive expiring life, and counteract the depressing influence of those maladies which often disturb the trauquility of the most

resigned in their last moments. The life of a sick person can be shortened, not only by the acts, but also by the words or the manner of a physician. It is, therefore, a sacred duty to guard himself carefully in this respect, and to avoid all things which have a tendency to discourage the patient and to depress his spirits.

SEC. 5. A physician ought not to abandon a patient because the case is thought incurable; for his attendance may continue to be highly useful to the patient, and comforting to the relatives around him, even in the last period of fatal malady, by alleviating pain and other symptoms, and by soothing mental anguish. To decline attendance upon such circumstances would be sacrificing to fanciful delicacy and mistaken liberality, that moral duty which is independent of, and far superior to, all pecuniary consideration.

SEC. 6. Cousultations should be promoted in difficult or protracted cases, as they give rise to confidence, energy and more enlarged views in practice.

SEC. 7. The opportunity which a physician not unfrequently enjoys of promoting and strengthening the good resolutions of his patients, ought never to be neglected. His counsels, or even remonstrances, will give satisfaction, not offense, if they be proffered with politeness, and evince a genuine love of virtue, accompanied by a sincere interest in the welfare of the person to whom they are addressed.

## ARTICLE II.

### OBLIGATIONS OF PATIENTS TO THEIR PHYSICIANS.

SECTION 1. The members of the medical profession, upon whom is enjoined the performance of so many important and arduous duties toward the community, and who are required to make so many sacrifices of comfort, ease and health for the welfare of those who avail themselves of their services, certainly have a right to expect and require that their patients should entertain a just sense of the duties which they owe to their medical attendants.

SEC. 2. The first duty of a patient is to select as his medical adviser one who has received a regular professional education. In no trade or occupation do mankind rely on the skill of an untaught artist; and in medicine, confessedly the most difficult and intricate of the sciences, the world ought not to suppose that knowledge is intuitive.

SEC. 3. Patients should prefer a physician whose habits of life are regular, and who is not devoted to company, pleasure or any pursuit incompatible with his professional obligations. A patient should also confide the care of himself and family, as much as possible, to one physician; for a medical man who has become acquainted with the peculiatities of constitution, habits and predispositions of those he attends, is more likely to be successful in his treatment than one who does not possess that knowledge.

A patient who has thus selected his physician should always apply for advice in what may appear to him trvial cases, for the most fatal results often supervene on the slightest accidents· It is of still more importance that he should apply for assistance in the forming stage of violent diseases; it is to a neglect of this precept that medicine owes much of the uncertainty and imperfection with which it has been reproached.

SEC. 4. Patients should faithfully and unreservedly communicate to their physician the supposed cause of their disease. This is the more important, as many diseases of a mental origin simulate those depending on external causes and yet are only to be cured by ministering to the mind diseased. A patient should never be afraid of thus making his physician his friend and adviser; he

should always bear in mind that a medical man is under the strongest obligations of secrecy. Even the female sex should never allow feelings of shame or delacacy to prevent their disclosing the seat, symptoms and causes of complaints peculiar to them. However commendable a modest reserve may be in the common occurences of life, its strict observance in medicine is often attended with the most serious consequences, and a patient may sink under a painful and loathsome disease, which might have been readily prevented had timely intimation been given to the physician.

Sec. 5. A patient should never weary his physician with a tedious detail of events or matters not appertaining to his disease. Even as relates to his actual symptoms, he will convey much more real information by giving clear answers to interrogatories than by the most minute account of his own framing. Neither should he obtrude upon his physician the details of his business nor the history of his family concerns.

Sec. 6. The obedience of a patient to the prescriptions of his physician should be prompt and explicit. He should never permit his own crude opinions as to their fitness to influence his attention to them. A failure in one particular may render an otherwise judicious treatment dangerous, and even fatal. This remark is equally applicable to diet, drink and exercise. As patients become convalescent, they are very apt to suppose that the rules prescribed for them may be disregarded, and the consequence, but too often, is a relapse. Patients should never allow themselves to be persuaded to take any medicine whatever that may be recommended to them by self-constituted doctors and doctresses who are so frequently met with, and who pretend to possess infallable remedies for the cure of every disease. However simple some of their prescriptions may appear to be, it often happens that they are productive of much mischief, and in all cases they are injurious by contravening the plan of treatment adopted by the physician.

Sec. 7. A patient should, if possible avoid even the friendly visits of a physician who is not attending to him—and when he does receive them, he should never converse on the subject of his disease, as an observation may be made, without any intention of interference, which may destroy his confidence in the course he is pursuing, and induce him to neglect the directions prescribed to him. A patient should never send for a consulting physician without the express consent of his own medical attendant. It is of great importance that physicians should act in concert; for, although their modes of treatment may be attended with equal success when applied singly, yet conjointly they are very likely to be productive of disastrous results.

Sec. 8. When a patient wishes to dismiss his physician, justice and common courtesy require that he should declare his reasons for so doing.

Sec. 9. Patients should always, when practicable, send for their physician in the morning, before his usual hour of going out; for by being early aware of the visits he has to pay during the day, the physician is able to apportion his time in such a manner as to prevent an interference of engagements. Patients should also avoid calling on their medical adviser unnecessarily during the hours devoted to meals or sleep. They should always be in readiness to receive the visits of their physician, as the detention of a few minutes is often of serious inconvenience to him.

Sec. 10. A patient should, after his recovery, entertain a just and endearing sense of the value of the services rendered by his physician; for these are of such a character that no mere pecuniary acknowledgement can repay or cancel them.

## OF THE DUTIES OF PHYSICIANS TO EACH OTHER AND THE PROFESSION AT LARGE.

### ARTICLE I.

#### DUTIES FOR THE SUPPORT OF PROFESSIONAL CHARACTER.

SEC. 1. Every individual, on entering the profession, as he becomes thereby entitled to all its privileges and immunities, incurs an obligation to exert his best abilities to maintain its dignity and honor, to exact its standing and to extend the bounds of its usefulness. He should therefore observe strictly such laws as are instituted for the government of its members; should avoid all contumelious and sarcastic remarks relative to the faculty as a body; and while, by unwearied diligence, he resorts to every honorable means of enriching the science, he should entertain a due respect for his seniors, who have, by their labors, brought it to the elevated condition in which he finds it.

SEC. 2. It is not in accord with the interests of the public or the honor of the profession that any physician or medical teacher should examine or sign diplomas or certificates of proficiency for, or otherwise be specially concerned with, the graduation of persons whom they have good reason to believe intend to support and practice any exclusive and irregular system of medicine.

SEC. 3. There is no profession from the members of which greater purity of character and a higher standard of moral excellence are required than the medical, and to attain such eminence is a duty every physician owes alike to his profession and to his patients. It is due to the latter, as without it he can not command their respect and confidence, and to both because no scientific attainments can compensate for the want of correct moral principles. It is also incumbent upon the faculty to be temperate in all things, for the practice of physic requires the unremitting exercise of a clear and vigorous understanding; and, on emergencies, for which no professional man should be unprepared, a steady hand, an acute eye and an unclouded head may be essential to the well-being, and even to the life, of a fellow being.

SEC. 4. It is derogatory to the dignity of the profession to resort to public advertisements, or private cards, or hand-bills, inviting the attention of individuals affected with peculiar diseases—publicly offering advice and medicine to the poor gratis, or promising radical cures; or to publish cases and operations in the daily prints, or suffer such publications to be made, to invite laymen to be present at operations, to boast of cures and remedies, to adduce certificates of skill and success, or to perform any other similar acts. These are the ordinary practices of empirics, and are highly reprehensible in a regular physician.

SEC. 3. Equally derogatory to professional character is it for a physician to hold a patent for any surgical instrument or medicine; or to dispense a secret nostrum, whether it be the composition or exclusive property of himself or of others. For, if such nostrum be of real efficacy, any concealment regarding it is inconsistent with beneficence and professional liberality; and if mistery alone give it value and importance, such craft implies either disgraceful ignorance or fraudulent avarice. It is also reprehensible for physicians to give certificates attesting the efficacy of patent medicines, or in any way to promote the use of them.

### ARTICLE II.

#### PROFESSIONAL SERVICES OF PHYSICIANS TO EACH OTHER.

SEC. 1. All practioners of medicine, their wives and their children, while under paternal care, are entitled to the gratuitous services of any one or more

of the faculty residing near them whose assistance may be desired. A physician afflicted with disease is usually an incompent judge of his own case; and the natural anxiety and solicitude which he experiences at the sickness of a wife, a child, or any one who, by the ties of consangunity, is rendered peculiarly dear to him, tend to obscure his judgment and produce timidity and irresolution in his practice. Under such circumstances medical men are peculiarly dependent upon each other, and kind offices and professional aid should always be cheerfully and gratuitously afforded. Visits ought not, however, to be obtruded officiously; as such unasked civility may give rise to embarrassment, or interfere with that choice on which confidence depends. But, if a distant member of the faculty, whose circumstances are affluent, request attendance, and a honorarium be offered, it should not be declined; for no pecuniary obligation ought to be imposed, which the party receiving it would wish not to incur.

## ARTICLE III.

### OF THE DUTIES OF PHYSICIANS AS RESPECT VARIOUS OFFICES.

SEC. 1. The affairs of life, the pursuit of health, and the various accidents and contingences to which a medical man is peculiarly exposed, sometimes require him temporarily to withdraw from his duties to his patients, and to request some of his professional brethren to officiate for him. Compliance with this request is an act of courtesy which should always be performed with the utmost consideration for the interest and character of the family physician and when exercised for a short period all the pecuniary obligations for such service should be awarded to him. But if a member of the profession neglect his business in quest of pleasure and amusement, he cannot be considered as entitled to the advantages of the frequent long-continued exercises of this fraternal courtesy, without awarding to the physician who officiates the fees arising from the discharge of his professional duties.

SEC. 2. In obstetrical and important surgical cases, which give rise to unusual fatigue, anixiety and responsibility, it is just that the fees accruing therefrom should be awarded to the physician who officiates.

## ARTICLE IV.

### OF THE DUTIES OF PHYSICIANS IN REGARD TO CONSULTATIONS.

SEC. 1. A regular medical education furnishes the only presumptive evidence of professional abilities and requirements, and ought to be the only acknowledged right of an individual to the exercise and honors of his profession. Nevertheless, as in consultations the good of the patient is the sole object in view, and this is often dependent on personal confidence, no intelligent regular practitioner, who has a license to practice from some medical board of known acknowledged respectability, recognized by this Association, and who is in good moral and professional standing in the place in which he resides, should be fastidiously excluded from fellowship, or his aid refused in consultation, when it is requested by the patient. But no one can be considered as a regular practitioner or a fit associate in consultation, whose practice is based on an exclusive dogma, to the rejection of the accumulated experience of the profession, and the aids actually furnished by anatomy, physiology, pathology and organic chemistry.

SEC. 2. In consultations no rivalship or jelousy should be indulged: candor, probity and all due respect should be exercised toward the physician having charge of the case.

SEC. 3. In consultations the attending physician should be the first to propose the necessary questions to the sick, after which the consulting physician should have the opportunity to make such further inquiries of the patient as may be necessary to satisfy him of the true character of the case. Both physicians should then retire to a private place for deliberation; and the one first in attendance should communicate the directions agreed upon to the patient or his friends, as well as any opinions which it may be thought proper to express. But no statement or discussion of it should take place before the patient or his friends, except in the presence of the faculty attending, and by their common consent; and no opinions or prognostications should be delivered which are not the result of previous deliberation and concurrence.

SEC. 4. In consultations the physician in attendance should deliver his opinion first, and when there are srveral consulting, they should deliver their opinions in the order in which they have been called in. No decision, however, should restrain the attending physician from making such variations in the mode of treatment as any subsequent unexpected change in the character of the case may demand. But such variations, and the reasons for it, ought to be cerefully detailed at the next meeting in consultation. The same privilege belongs also to the consulting physician if he is sent for in an emergency when the regular attendant is out of the way, and similar explanations must be made by him at the next consultation.

SEC. 5. The utmost punctuality should be observed in the visits of physicians when they are to hold consultations together, and this is greatly practicable. for society has been considerate enough to allow the plea of a professional engagement to take precedence of all others, and to be an ample reason for the relinquishment of any present occupation. But as professional engagements may sometimes interfere and delay one of the parties, the physician who first arrives should wait for his associate a reasonable period, after which the consultation should be considered as postponed to a new appointment. If it be the attending physician who is present, he will, of course, see the patient and prescribe; but if it be the consulting one, he should retire except in case of emergency, or when he has been called from a considerable distance, in which latter case he may examine the patient, and give his opinion in writing, and under seal, to be delivered to his associate.

SEC. 6. In consultations theoretical discussions should be avoided as occasioning perplexity and loss of time. For there may be much diversity of opinion concerning speculative points, with perfect agreement in those modes of practice which are founded, not on hypothesis, but on experience and observation.

SEC. 7. All discussions in consultation should be held as secret and confidential. Neither by words or manner should any of the parties to a consultation assert or insinuate that any part of the treatment pursued did not receive his assent. The responsibility must be equally divided between the medical attendants—they must equally share the credit of success as well as the blame of failure.

SEC. 8. Should an irreconcilable diversity of opinion occur when several physicians are called upon to consult together, the opinion of the majority should be considered as decisive; but if the number be equal on each side then the decision should rest with the attending physician. It may, moreover, sometimes happen that two physicians cannot agree in their views of the nature of a case, and the treatment to be pursued. This is a circumstance much to be deplored, and should always be avoided, if possible, by mutual concession,

as far as they can be justified by a conscientious regard for the dictates of judgment. But in the event of its occurrence a third physician should, if practicable, be called to act as umpire; and, if circumstances prevent the adoption of this course, it must be left to the patient to select the physician in whom he is most willing to confide. But, as every physician relies upon the rectitude of his judgment, he should, when left in the minority, politely and consistently retire from any further deliberation in the consultation, or participation in the management of the case.

SEC. 9. As circumstances sometimes occur to render a special consultation desirable, when the continued attendance of two physicians might be objectionable to the patient, the member of the faculty whose assistance is required in such cases should sedulrusly guard against all future unsolicited attendance. As such consultations require an extraordinary portion of both time and attention, at least a double honorarium may be reasonably expected.

SEC. 10. A physician who is called upon to consult should observe the most honorable and scrupulous regard for the character and standing of the practitioner in attendance; the practice of the latter, if necessary, should be justified, as far as can be, consistently with a conscientious regard for truth, and no hint or insinuation should be thrown out which could impair the confidence reposed in him, or affect his reputation. The consulting physician should also carefully refrain from any of those extraordinary attentins or assiduities which are too often practiced by the dishonest for the base purpose of gaining applause, or ingratiating themselves into the favor of families and individuals.

## ARTICLE V.

### DUTIES OF PHYSICIANS IN CASES OF INTERFERENCE.

SEC. 1. Medicine is a liberal profession, and those admitted into its ranks should found their expectations of practice upon the extent of their qualifications, not on intrigue or artifice.

SEC. 2. A physician, in his intercourse with a patient under the care of another practitioner, should observe the strictest caution and reserve. No meddling inquiries should be made; no disingenuous hints given relative to the nature and treatment of his disorder; nor any course of conduct pursued that may directly or indirectly tend to diminish the trust reposed in the physician employed.

SEC. 3. The same circumspection and reserve should be observed when, from motives of business or friendship, a physician is prompted to visit an individual who is under the direction of another practitioner. Indeed, such visits should be avoided, except under peculiar circumstances; and when they are made no particular inquiries should be instituted relative to the nature of the disease, or the remedies employed, but the topics of conversation should be as foreign to the case as circumstances will admit.

SEC. 4. A physician ought not to take charge of or prescribe for a patient who has recently been under the care of another member of the faculty in the same illness, except in cases of sudden emergency, or in consultation with the physician previously in attendance, or when the latter has relinquished the case, or been regularly notified that his services are no longer desired. Under such circumstances, no unjust and illiberal insinuations should be thrown out in relation to the conduct or practice previously pursued, which should be justified as far as candor and regard for truth and probity will permit; for it often happens that patients become dissatisfied when they do not experience

immediate relief, and, as many diseases are unusually protracted, the want of success, in the first stage of treatment, affords no evidence of a lack of professional knowledge and skill.

SEC. 5. When a physician is called to an urgent case, because the family attendant is not at hand, he ought, unless his assistance in consultation be desired, to resign the care of the patient to the latter immediately on his arrival.

SEC. 6. It often happens in case of sudden illness, or of recent accidents and injuries, owing to the alarm and anxiety of friends, that a number of physicians are simultaneously sent for. Under these circumstances, courtesy should assign the patient to the first who arrives, who should select from those present any additional assistance that he may deem necessary. In all such cases, however, the practitioner who officiates should request the family physician, if there be one, to be called, and, unless his further attendance be requested, should resign the case to the latter on his arrival.

SEC. 7. When a physician is called to the patient of another practitioner, in consequence of the sickness or absence of the latter, he ought, on his return or recovery of the regular attendant, and with the consent of the patient to surrender the case.

[The expression, "patient of another practitioner," is understood to mean a patient who may have been under the charge of another practitioner at the time of the attact of sickness, or departure from home of the latter, or who may have called for his attendance during his absence or sickness, or in any other manner given it to be understood that he regarded the said physician as his regular medical attendant.]

SEC. 8. A physician, when visiting a sick person in the country, may be desired to see a neighboring patient who is under the regular direction of another physician, in consequence of some sudden change or aggravation of symptoms. The conduct to be pursued on such an occasion is to give advice adapted to present circumstances; to interfere no further than is absolutely necessary with the general plan of treatment; to assume no future direction unless it be expressly desired; and, in the last case, to request an immediate consultation with the practitioner previously employed.

SEC. 9. A wealthy physician should not give advice gratis to the affluent; because his doing so is an injury to his professional brethren. The office of a physician can never be supported as an exclusive beneficient one; and it is defrauding, in some degree, the common funds for its support, when fees are dispensed with which might justly be claimed.

SEC. 10. When a physician who has been engaged to attend a case of midwifery is absent, and another is sent for, if delivery is accomplished during the attendance of the latter, he is entitled to the fee, but should resign the patient to the practitioner first engaged.

## ARTICLE VI.

### OF DIFFERENCES BETWEEN PHYSICIANS.

SEC. 1. Diversity of opinion and opposition of interest may, in the medical as in other professions, sometimes occasion controversy and even contention. Whenever such cases unfortunately occur, and cannot be immediately terminated, they should be referred to the arbitration of a sufficient number of physicians or a court-medical.

SEC. 2. As a peculiar reserve must be maintained by physicians towards the public, in regard to professional matters, and as there exist numerous points in medical ethics and etiquette through which the feelings of medical

men may be painfully assailed in their intercourse with each other, and which cannot be understood or appreciated by general society, neither the subject-matter of such differences nor the adjudication of the arbitrators should be made public, as publicity in a case of this nature may be personally injurious to the individuals concerned, and can hardly fail to bring discredit on the faculty.

## ARTICLE VII.

### OF PECUNIARY ACKNOWLEDGMENTS.

SEC. 1. Some general rules should be adopted by the faculty, in every town or district, relative to pecuniary acknowledgments from their patients; and it should be deemed a point of honor to adhere to these rules with as much uniformity as varying circumstances will admit.

## OF THE DUTIES OF THE PROFESSION TO THE PUBLIC, AND OF THE OBLIGATIONS OF THE PUBLIC TO THE PROFESSION.

## ARTICLE I.

### DUTIES OF THE PROFESSION TO THE PUBLIC.

SEC. 1. As good citizens, it is the duty of physicians to be ever vigilant for the welfare of the community and to bear their part in sustaining its institutions and burdens; they should also be ever ready to give counsel to the public in relation to matters especially appertaining to their profession, as on subjects of medical police, public hygiene and legal medicine. It is their province to enlighten the public in regard to quarantine regulations ; the location, arrangement and dietaries of hospitals, asylums, schools, prisons and similar institutions in relation to the medical police of towns, as drainage, ventilation, etc. ; and in regard to measures for the prevention of epidemic and contagious diseases; and when pestilence prevails it is their duty to face the danger and to continue their labors for the alleviation of the suffering, even at the jeopardy of their own lives.

SEC. 2. Medical men should also be always ready, when called on by the legally constituted authorities, to enlighten coroners' inquests and courts of justice on subjects strictly medical—such as involve questions relating to sanity, legitimacy, murder by poisons or other violent means, and in regard to the various other subjects embraced in the science of Medical Jurisprudence. But in these cases, and especially where they are required to make a post-mortem examination, it is just, in consequence of the time, labor and skill required and the responsibility and risk they incur, that the public should award them a proper honorarium.

SEC. 3. There is no profession by the members of which elemosynary services are more liberally dispensed than the medical, but justice requires that some limits should be placed to the performance of such good offices. Poverty, professional brotherhood and certain of the public duties referred to in the first section of this article, should always be recognized as presenting valid claims for gratuitous services; but neither institutions endowed by the public or by rich individuals, societies for mutual benefit, for the insurance of lives or for analogous purposes, nor any profession or occupation, can be admitted to possess such privilege. Nor can it be justly expected of physicians to furnish certificates of inability to serve on juries, to perform military duty, or to testify to the state of health of persons wishing to insure their lives, to obtain pensions, or the like, without a pecuniary acknowledgment. But to individuals in indigent circumstances such professional services should always be cheerfully and freely accorded.

SEC. 4. It is the duty of physicians who are frequent witnesses of the enormities committed by quackery and the injury to health, and even destruction of life caused by the use of quack medicines, to enlighten the public on these subjects, to expose the injuries sustained by the unwary from the devices and pretensions of artful empirics and impostors. Physicians ought to use all the influence which they may possess, as professors in colleges of pharmacy, and by exercising their option in regard to the shops to which their prescriptions shall be sent, to discourage druggists and apothecaries from vending quack or secret medicines, or from being in any way engaged in their manufacture and sale.

## ARTICLE II.

### OBLIGATIONS OF THE PUBLIC TO PHYSICIANS.

SEC. 1. The benefits accruing to the public, directly and indirectly, from the active and unwearied beneficence of the profession, are so numerous and important, that physicians are justly entitled to the utmost consideration and respect from the community. The public ought likewise to entertain a just appreciation of medical qualifications; to make a proper discrimination between true science and the assumptions of ignorance and empiricism; to afford every encouragement and facility for the acquisition of medical education—and no longer to allow the statute-books to exhibit the anomaly of exacting knowledge from physicians, under a liability to heavy penalties, and of making them obnoxious to punishment for resorting to the only means of obtaining it.

# List of Members.

In the Order in Which They Signed the Constitution.

(The effort has been made to obtain the correct address of each member of the Society. Any person noting an error or omission in the roster will please inform the secretary of the Society, at Wilmington, giving the proper correction.)

| Date of Signing. | | | |
|---|---|---|---|
| 1849 | Dr. | J. B. Dunn | Raleigh. |
| 1951 | " | Robt. Gibbon | Charlotte. |
| 1852 | " | Allman Holmes | Clinton. |
| 1855 | " | Peter E. Hines | Raleigh. |
| 1857 | " | R. H. Winborne | Barnitz. |
| 1858 | " | Geo. A. Foote | Warrenton. |
| 1859 | " | Eugene Grissom | Denver, Colorado. |
| 1860 | " | W. J. Jones | Goldsboro. |
| 1860 | " | Chas. J. O'Hagan | Greenville. |
| 1860 | " | J. W. Jones | Tarboro. |
| 1860 | " | J. K. Ruffin | Wilson. |
| 1867 | " | Wm. R. Wood | Scotland Neck. |
| 1867 | " | P. A. Barrier | Mt. Pleasant. |
| 1867 | " | Geo. L. Kirby | Raleigh. |
| 1867 | " | J. F. Shaffner | Salem. |
| 1868 | " | W. T. Cheatham | Henderson. |
| 1868 | " | F. J. Haywood | Raleigh. |
| 1868 | " | B. P. Alston | Henderson. |
| 1869 | " | H. T. Bahnson | Salem. |
| 1870 | " | W. W. Lane | Wilmington. |
| 1870 | " | Chas. Duffy | Newbern. |
| 1870 | " | Wm. J. Love | Wilmington. |
| 1870 | " | Jas. McKee | Raleigh. |
| 1870 | " | Willis Alston | Littleton. |
| 1870 | " | W. J. H. Bellamy | Wilmington. |
| 1871 | " | W. I. Royster | Raleigh. |
| 1871 | " | Geo. Gillett Thomas | Wilmington. |
| 1872 | " | Francis Duffy | Newbern. |
| 1873 | " | A. G. Carr | Durham. |
| 1873 | " | J. F. Miller | Goldsboro. |
| 1873 | " | J. M. Hadley | LaGrange. |
| 1873 | " | J. W. Vick | Selma. |
| 1873 | " | P. L. Murphy | Morganton. |
| 1874 | " | Jos. Graham | Charlotte. |
| 1874 | " | W. H. Lilly | Concord. |
| 1874 | " | J. H. McMullen | Edenton. |
| 1874 | " | T. D. Haigh | Fayetteville. |
| 1875 | " | L. J. Picot | Littleton. |
| 1875 | " | D. N. Sills | Castalia. |
| 1875 | " | D. W. Bulluck | Wilmington. |
| 1875 | " | W. H. Whitehead | Rocky Mount. |
| 1875 | " | R. H. Speight | Wrendale. |
| 1876 | " | W. C. McDuffie | Fayetteville. |
| 1876 | " | Henry Tull | Kinston |
| 1876 | " | J, W. McNeill | Fayetteville. |
| 1876 | " | J. D. McMillan | Lumberton. |
| 1877 | " | J. D. Roberts | Durham. |
| 1877 | " | Geo. W. Long | Graham. |
| 1877 | " | Geo. W. Graham | Charlotte. |
| 1877 | " | N. S. Siewers | Salem. |
| 1877 | " | Richard H. Lewis | Raleigh. |
| 1877 | " | J. F. Harrell | Whiteville. |
| 1877 | " | A. M. Lee | Clinton. |
| 1878 | " | R. J. Noble | Selma. |
| 1878 | " | W. H. H. Cobb | Goldsboro. |

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|---|---|---|---|
| 1878 | Dr. | J. H. Tucker | Henderson. |
| 1878 | " | E. H. Hornaday | Willow Green. |
| 1879 | " | I. W. Faison | Charlotte. |
| 1879 | " | I. G. Ector | Friendship. |
| 1879 | " | Hubert Haywood | Raleigh. |
| 1879 | " | J. M. Covington | Rockingham. |
| 1879 | " | W. P. Beall | Greensboro. |
| 1879 | " | A. D. McDonald | Wilmington. |
| 1879 | " | S. B. Jones | Charlotte. |
| 1879 | " | J. J. Cox | High Point. |
| 1879 | " | D. M. Prince | Laurinburg. |
| 1879 | " | J. A. Sexton | Raleigh. |
| 1879 | " | John C. Walton | Reidsville. |
| 1879 | " | R. A. Hargrave | Robesonville. |
| 1879 | " | Julian M. Baker. | Tarboro. |
| 1879 | " | Thos. E. Anderson | Statesville. |
| 1880 | " | J. M. Stansill | Rockingham. |
| 1880 | " | Thomas Hill | Goldsboro. |
| 1880 | " | E. de la R. King | Beaufort. |
| 1880 | " | J. C. Shepard | Wilmington. |
| 1880 | " | W. C. Galloway | Wilmington. |
| 1880 | " | T. S. Burbank | Wilmington. |
| 1880 | " | R. W. Thomas | Thomasville. |
| 1880 | " | C. M. Poole | Craven. |
| 1880 | " | J. L. Nicholson | Richlands. |
| 1880 | " | A. W. Knox | Raleigh. |
| 1880 | " | John Whitehead | Salisbury. |
| 1880 | " | S. J. Montague | Winston. |
| 1880 | " | W. P. Mercer | Elm City. |
| 1880 | " | L W. Hunter | Sardis. |
| 1881 | " | R. F. Whiteside | Hickory. |
| 1881 | " | J. A. Reagan | Weaverville. |
| 1881 | " | G. W. Fletcher | Fletchers. |
| 1881 | " | M. H. Fletcher | Asheville. |
| 1881 | " | T. M. Jordan | Hookerton. |
| 1881 | " | R. L. Payne | Norfolk, Va. |
| 1881 | " | T. S. Meisenheimer | Morven. |
| 1881 | " | T. F. Pharr | Concord. |
| 1881 | " | H. B. Weaver | Asheville. |
| 1881 | " | A. J. Battle | Wadesboro. |
| 1881 | " | J. H. Williams | Asheville. |
| 1882 | " | J. R. Irwin | Charlotte. |
| 1882 | " | A. R. Wilson. | Greensboro. |
| 1882 | " | K. P. Battle | Raleigh. |
| 1882 | " | R. S. Young | Concord. |
| 1882 | " | R. A. Smith | Goldsboro. |
| 1882 | " | C. A. Meisenheimer | Charlotte. |
| 1883 | " | W. W. Faison | Goldsboro. |
| 1883 | " | W. O. McDowell | Scotland Neck. |
| 1883 | " | N. H. Street | Newbern. |
| 1883 | " | J. A. Stevens | Clinton. |
| 1883 | " | T. S. Royster | Townesville. |
| 1883 | " | I. M. Taylor | Morganton. |
| 1883 | " | J. M. Hodges | LaGrange. |
| 1883 | " | W. L. Hudson | Dunn. |
| 1883 | " | F. R Harriss | Henderson. |
| 1883 | " | H. H. Whitaker | Crisp. |
| 1883 | " | G. C. Edwards | Hookerton. |
| 1883 | " | E. M. Summerell | Mill Bridge. |
| 1883 | " | K. M. Ferguson | Cameron. |
| 1883 | " | P. J. Macon | Warrenton. |
| 1883 | " | N. M. McLean | Gibson's Station. |
| 1883 | " | B. L. Long | Hamilton. |
| 1883 | " | N. P. Boddie | Durham. |

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|---|---|---|---|
| 1884 | Dr. | W. G. Freeman | Murfreesboro. |
| 1884 | " | W. C. Whitfield | Quinerly. |
| 1884 | " | J. A. Burroughs | Asheville. |
| 1884 | " | F. W. Brown | Greenville. |
| 1884 | " | J. W. Long | Richmond, Va. |
| 1884 | " | M. P. Perry | Macon. |
| 1884 | " | Wm. Edwards | Hunts. |
| 1884 | " | G. J. Robinson | Smithfield. |
| 1884 | " | M. R. Adams | Statesville. |
| 1884 | " | G. T. Sikes | Grissom. |
| 1884 | " | W. B. Pritchard | 355 W. 58th St. N.Y. |
| 1884 | " | J. M. Manning | Durham. |
| 1884 | " | G. W. Purefoy | Asheville. |
| 1884 | " | M. H. Futrell | Conway. |
| 1884 | " | B. F. McMillan | Plainview. |
| 1884 | " | J. E. Grimsley | Snow Hill. |
| 1884 | " | A. M. Herron | Charlotte. |
| 1885 | " | W. N. Hicks | Fish Dam. |
| 1885 | " | L. P. Sorrell | Kelvin Cove. |
| 1885 | " | J. C. Whiteside | Newton. |
| 1885 | " | L. M. Archey | Concord. |
| 1885 | " | W. E. Powell | Gastonia. |
| 1885 | " | F. W. Hughes | Newbern. |
| 1885 | " | E. W. Pugh | Windsor. |
| 1885 | " | W. L. Best | Quinerly. |
| 1885 | " | S. D. Booth | Oxford. |
| 1885 | " | R. T. Spencer | Chalk Level. |
| 1885 | " | J. A. Hodges | Richmond, Va. |
| 1885 | " | Annie L. Alexander | Charlotte. |
| 1885 | " | J. T. Nicholson | Bath. |
| 1885 | " | J. M. Hays | Greensboro. |
| 1885 | " | A. T. Cotten | Morrisville. |
| 1885 | " | A. D. York | Morrisville. |
| 1885 | " | J. D. McKay | Averasboro. |
| 1885 | " | S. L. Montgomery | Concord. |
| 1885 | " | K. Leggett | Hobgood. |
| 1885 | " | W. W. Pharr | Newell's. |
| 1885 | " | J. M. Faison | Faison. |
| 1885 | " | J. W. McGee | Raleigh. |
| 1885 | " | H. W. Dorsett | Bethany. |
| 1885 | " | D. G. Caldwell | Concord. |
| 1885 | " | W. B. Crisp | Cliffdale (?). |
| 1885 | " | J. M. O'Kelly | Williams Mills. |
| 1885 | " | M. F. Fox | Greensboro. |
| 1885 | " | D. T. Tayloe | Washington. |
| 1885 | " | Zeno Brown | Greenville. |
| 1885 | " | F. W. Ritter | Moyock. |
| 1885 | " | Mayland Bolton | Rich Square. |
| 1885 | " | W. E. Turlington | Benson. |
| 1885 | " | Fleet J. Cooper | Hives. |
| 1886 | " | G. H. Dodd | Clayton. |
| 1886 | " | B. S. Utley | Holly Springs. |
| 1886 | " | R. A. Whitaker | Trenton. |
| 1886 | " | M. W. Harper | Dunn. |
| 1886 | " | H. T. Chapin | Pittsboro. |
| 1886 | " | H. H. Harriss | Wake Forest. |
| 1886 | " | S. C. McClure | |
| 1887 | " | O. D. King | Albemarle. |
| 1887 | " | W. D. Pemberton | Monroe. |
| 1887 | " | S. S. Daniel | Winton. |
| 1887 | " | A. W. Goodwin | Raleigh. |
| 1887 | " | W. H. Bagwell | Greenville. |
| 1887 | " | H. W. Lewis | Jackson. |
| 1887 | " | Henry H. Dodson | Milton. |

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|---|---|---|
| 1887 | Dr. S. W. Battle, U. S. N. | Asheville. |
| 1887 | " J. F. Beall | Linwood. |
| 1887 | " W. L. Crouse | Lincolnton. |
| 1887 | " Joe Hill | Lexington. |
| 1887 | " J. H. Way | Waynesville. |
| 1887 | " R. H. Stancell | Margarettesville. |
| 1887 | " R. A. Patterson | Aurelian Springs. |
| 1887 | " J. McDeArmond | Mint Hill. |
| 1887 | " R. J. Brevard | Charlotte. |
| 1887 | " R. C. Register | Charlotte |
| 1887 | " R. W. Tate | Greensboro. |
| 1887 | " J. D. Croom | Maxton. |
| 1887 | " D. C. Parris | Hillsboro. |
| 1888 | " J. C. Grady | Mt. Olive. |
| 1888 | " J. A. Faison | Raleigh. |
| 1888 | " A. McDougald | Cumberland Mill. |
| 1888 | " W. J. Lumsden | Elizabeth City. |
| 1888 | " G. H. Moran | Morganton. |
| 1888 | " N. B. Herring | Wilson. |
| 1888 | " Jas. W. McGee, Jr. | Raleigh. |
| 1888 | " Arch. McKinnon | Lumber Bridge. |
| 1888 | " Duncan Smith | Athens. |
| 1888 | " M. DeI. Tatum | Winnie. |
| 1888 | " S. A. Henly | Asheboro. |
| 1888 | " W. A. Monroe | Sanford. |
| 1888 | " H. B. Marriott | Battleboro. |
| 1888 | " C. B. Woodley | Kinston. |
| 1888 | " W. S. Anderson | Wilson. |
| 1888 | " J. G. Broadnax | Greensboro. |
| 1888 | " Duncan Sinclair | Rowland. |
| 1888 | " J. B. Ashcroft | Monroe. |
| 1888 | " C. H. Lewis | Farmers. |
| 1888 | " E. B. Goelet | Saluda. |
| 1888 | " B. T. Cox | Redalia. |
| 1888 | " A. Cheatham | Durham. |
| 1888 | " Jenness Morrill | Farmville. |
| 1888 | " Thomas Stamps | Lumber Bridge. |
| 1889 | " J. T. J. Battle | Wadesboro. |
| 1889 | " W. V. McCauless | Danbury. |
| 1889 | " Oscar McMullan | Elizabeth City. |
| 1889 | " J. E. Wood | Elizabeth City. |
| 1889 | " Albert Anderson | Wilson. |
| 1889 | " W. B. Fearing | Poplar Branch. |
| 1890 | " W. G. Stafford | Burlington. |
| 1890 | " J. S. Lafferty | Concord. |
| 1890 | " B. W. Hathaway | Avoca. |
| 1890 | " T. L. Booth | Stem. |
| 1890 | " J. H. Marsh | Fayetteville. |
| 1890 | " P. B. Loftin | Bell's Ferry. |
| 1890 | " R. L. Gibbon | Charlotte. |
| 1890 | " W. A. Graham | Charlotte. |
| 1890 | " R. B. Henderson | Wilton. |
| 1890 | " J. L. Ray | Burnsville. |
| 1890 | " W. H. Harrell | Williamston. |
| 1890 | " J. L. Egerton | Hendersonville. |
| 1890 | " J. W. White | Wilkesboro. |
| 1890 | " E. G. Moore | Elm City. |
| 1890 | " J. P. Fearrington | Winston. |
| 1890 | " J. J. Mann | Nashville. |
| 1890 | " E. R. Michaux | Greensboro. |
| 1890 | " E. P. Snipes | Jonesboro. |
| 1890 | " E. C. Laird | Haw River. |
| 1890 | " J. P. Munroe | Davidson. |
| 1890 | " R. A. Martin | Roxboro. |
| 1890 | " R. D. Jewett | Wilmington. |

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| 1891 | " | J. B. H. Knight | Williamston. |
| 1891 | " | J. G. Waldrop | Hendersonville. |
| 1891 | " | C. Few | Hendersonville. |
| 1891 | " | W. F. Chenault | Elmwood. |
| 1891 | " | C. G. Nichols | Roxboro. |
| 1891 | " | Richard H. Whitehead | Chapel Hill. |
| 1891 | " | Jos. L. Laxton | Morganton. |
| 1891 | " | Karl von Ruck | Asheville. |
| 1891 | " | D. A. Stanton | High Point. |
| 1891 | " | A. M. Ballard | Asheville. |
| 1891 | " | Jas. A. Turner | High Point. |
| 1891 | " | H. Longstreet Taylor | S. Paul, Minn. |
| 1891 | " | J. F. Sanderford | Creedmore. |
| 1891 | " | A. O. Jones | Rogers Store. |
| 1891 | " | D. I. Watson | Southport. |
| 1891 | " | R. C. Ellis | Waynesville. |
| 1891 | " | C. Daligny | Thomasville. |
| 1891 | " | J. H. Wolff | Sylva. |
| 1891 | " | W. E. Headen | Chapel Hill. |
| 1891 | " | W. J. Kloutz | Alexander. |
| 1891 | " | D. W. Courts | Reidsville. |
| 1891 | " | A. J. Monroe | Jonesboro. |
| 1891 | " | J. Y. Fitzgerald | Monroe. |
| 1891 | " | J. A. Watson | Asheville. |
| 1891 | " | W. H. Wilson | Gastonia. |
| 1891 | " | H. K. Edgerton | Selma. |
| 1891 | " | J. T. Reid | Old Fort. |
| 1891 | " | J. C. Black | Pioneer Mills. |
| 1891 | " | R. W. Palmer | Gulf. |
| 1891 | " | W. P. Ivey | Lenoir. |
| 1892 | " | J. Alston Nicholson | Washington. |
| 1892 | " | E. L. Cox | Jacksonville. |
| 1892 | " | W. J. Harrell | Aulander. |
| 1892 | " | P. R. Hatch | Youngsville. |
| 1892 | " | R. W. Mills | Troutmans. |
| 1892 | " | Russell Bellamy | 35 W. 31st St., N.Y. |
| 1892 | " | A. G. Jones | Walnut Cove. |
| 1892 | " | Wade H. Atkinson | Washington, D.C. |
| 1892 | " | G. V. Cate | Taylor's Bridge. |
| 1892 | " | Silas P. Wright | Wilmington. |
| 1892 | " | K. A. Blue | Laurinburg. |
| 1892 | " | H. Johnson | Grifton. |
| 1892 | " | A. J. Patterson | Liberty. |
| 1892 | " | F. P. Gates | Bayboro. |
| 1892 | " | W. R. Mayo | Jamesville. |
| 1892 | " | W. E. Fitch | Durham. |
| 1892 | " | C. B. Ingram | Mt. Gilead. |
| 1892 | " | T. S. McMullan | Hertford. |
| 1892 | " | J. B. Shamberger | Star. |
| 1892 | " | Wm. D. McMillan | Wilmington. |
| 1892 | " | G. M. Hackles | Mars Hill. |
| 1892 | " | E. G. Goodman | El Paso. |
| 1892 | " | M. E. Gattis | Auburn. |
| 1893 | " | B. W. Burt | Enno. |
| 1893 | " | T. B. Williams | Ridgeway. |
| 1893 | " | J. R. Anderson | Morganton. |
| 1893 | " | M. F. Morphew | Marion. |
| 1893 | " | J. F. Highsmith | Fayetteville. |
| 1893 | " | G. M. Bell | Wakefield. |
| 1883 | " | J. R. Wheless | Centreville. |
| 1893 | " | W. B. Bullock | Franklinton. |
| 1893 | " | J. C. Jenkins | Everetts. |
| 1893 | " | J. A. Matthews | Castalia. |
| 1893 | " | F. H. Seawell | Archer Lodge. |
| 1893 | " | R. J. Nelson | Robersonville. |
| 1893 | " | H. F. Long | Statesville. |

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|---|---|---|---|
| 1893 | " | M. W. Gibson | Taylorsville. |
| 1893 | " | Albert Houck | Lenoir. |
| 1893 | " | J. P. Brown | Ashpole. |
| 1893 | " | S. Hassell | Plymouth. |
| 1893 | " | J. J. L. McCullers | Raleigh. |
| 1893 | " | I. M. Ramsay | Seaboard. |
| 1893 | " | W. R. Galey | Graham. |
| 1893 | " | J. M. Flippin | Salisbury. |
| 1893 | " | C. A. Julian | Thomasville. |
| 1893 | " | Jas. T. Rieves | Julian. |
| 1893 | " | B. B. Williams | Keyser. |
| 1893 | " | W. H. Wakefield | Charlotte. |
| 1893 | " | C. M. Benton | Newton Grove. |
| 1893 | " | R. J. Grimes | Bethel. |
| 1893 | " | E. F. Strickland | Bethania. |
| 1893 | " | H. C. Williams | Aberdeen. |
| 1893 | " | R. A. Moore | Moncure. |
| 1893 | " | R. L. Davis | Bryson City. |
| 1893 | " | W. H. Nicholson | Louisburg. |
| 1893 | " | J. E. Malone | Louisburg. |
| 1893 | " | Robt. J. Gill | Henderson. |
| 1893 | " | R. L. Grattis | Belle Voir. |
| 1893 | " | J. G. Blount | Washington. |
| 1893 | " | G. A. Renn | Raleigh. |
| 1893 | " | W. K. Hollingsworth | Mt. Airy. |
| 1893 | " | W. J. Hill | Statesville. |
| 1893 | " | J. H. Gibbon | Philadelphia, Pa. |
| 1893 | " | J. M. Templeton | Cary. |
| 1893 | " | M. L. Stevens | Enochville. |
| 1893 | " | C. N. Roberson | Ascend. |
| 1893 | " | J. M. Sloan | Gastonia. |
| 1893 | " | Josh. Tayloe | Washington. |
| 1894 | " | W. T. Richardson | Greensboro. |
| 1894 | " | J. R. Gordon | Jamestown. |
| 1894 | " | C. O'H. Laughinghouse | Greenville. |
| 1894 | " | J. R. Hester | Prospect Hill. |
| 1894 | " | W. W. McKenzie | Salisbury. |
| 1894 | " | W. S. Taylor | Mt. Airy. |
| 1894 | " | R. E. Cox | Fremont. |
| 1894 | " | J. H. Mease | Canton. |
| 1894 | " | Thos. M. Riddick | Woodville. |
| 1894 | " | J. D. Jenkins | Crisp. |
| 1894 | " | C. L. Jenkins | Conetoe. |
| 1894 | " | C. S. Gilmer | Greensboro. |
| 1894 | " | G. H. Lewis | Reidsville. |
| 1894 | " | L. D. Wharton | Smithfield. |
| 1894 | " | B. F. Hallsey | Roper. |
| 1874 | " | O. B. Stroud | Ore Hill. |
| 1894 | " | C. T. Harper | Baltimore, Md. |
| 1894 | " | J. D. Edwards | Siler City. |
| 1894 | " | W. C. Steele | Mt. Olive. |
| 1894 | " | C. E. Walker | Huntersville. |
| 1894 | " | W. J. Vestal | Tyro Shops. |
| 1894 | " | Jno. E. Logan | Greensboro. |
| 1894 | " | W. J. Jones, Jr | Goldsboro. |
| 1894 | " | W. C. McCauless | Danbury. |
| 1894 | " | A. A. Kent | Lenoir. |
| 1894 | " | A. E. Ledbetter | Greensboro. |
| 1894 | " | D. A. Roberson | Guilford College. |
| 1894 | " | A. H. Harriss | Wilmington. |
| 1894 | " | W. O. Spencer | Yanceyville. |
| 1894 | " | J. A. Meyers | Lexington. |
| 1894 | " | L. L. Johnson | Angeline. |
| 1894 | " | D. R. Schenck | Greensboro. |
| 1894 | " | J. M. Williams | Greensboro. |
| 1894 | " | A. J. Crowell | China Grove. |

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|---|---|---|---|
| 1894 | " | T. P. Boaz | Stoneville. |
| 1894 | " | G. M. Ivie | Stoneville. |
| 1894 | " | G. R. Hughes | Pollocksville. |
| 1894 | " | D. J. Hill | Germanton. |
| 1894 | " | W. C. Ashworth | Kernersville. |
| 1894 | " | G. A. Smith | Siler City. |
| 1895 | " | E. H. Sugg | Snow Hill. |
| 1895 | " | F. H. Russell | Wilmington. |
| 1895 | " | W. E. Murphy | Carr. |
| 1895 | " | W. D. Bowen | Bath. |
| 1895 | " | Geo. H. West | Weldon. |
| 1895 | " | W. L. Kirkpatrick | Crab Tree. |
| 1895 | " | W. T. Turlington | Fremont. |
| 1895 | " | J. S. Brown | Salisbury. |
| 1895 | " | R. S. McGeachy | Raleigh. |
| 1895 | " | C. E. Moore | Wilson. |
| 1895 | " | F. W. Whitehead | Scotland Neck. |
| 1895 | " | H. A. Royster | Raleigh. |
| 1895 | " | Jno. W. Saine | Lincolnton. |
| 1895 | " | J. C. Montgomery | Charlotte. |
| 1895 | " | W. O. Baskerville | Oxford. |
| 1895 | " | Joseph Dixon | Ayden. |
| 1895 | " | B. W. Best | Eureka. |
| 1895 | " | Jno. Thames | Lexington. |
| 1895 | " | J. T. Strickland | Nashville. |
| 1895 | " | J. C. Rodman | Washington |
| 1895 | " | Claude M. Jones | Grimesland. |
| 1895 | " | F. H. Arthur | Harrell's Store. |
| 1896 | " | Ab. Alexander | Columbia. |
| 1896 | " | Geo. Doughton | North Wilkesboro. |
| 1896 | " | C. C. Jackson | Yeatesville. |
| 1896 | " | W. C. Brownson | W. Asheville. |
| 1896 | " | J. M. Turner | Wilkesboro. |
| 1896 | " | Fred. L. Potts | Vanceboro. |
| 1896 | " | Chas. W. Mosby | Kapps Mill. |
| 1896 | " | W. T. Holt | Donnaha. |
| 1896 | " | A. Y. Linville | Salem. |
| 1896 | " | Goode Cheatham | Henderson. |
| 1896 | " | James W. Parrott | Kinston. |
| 1896 | " | Jos. W. Kornegay | Mt. Olive. |
| 1896 | " | F. M. Holmes | Clinton. |
| 1896 | " | E. Fulp | Fulp. |
| 1896 | " | J. E. McLauchlin | Cool Spring. |
| 1866 | " | John Bynum | Winston. |
| 1896 | " | Chas B. McAnally | Madison. |
| 1896 | " | G. W. Pressly | Charlotte. |
| 1896 | " | W. K. Reid. | Pineville. |
| 1896 | " | W. H. Crowell | Poortith. |
| 1896 | " | Carl V. Reynolds | Asheville. |
| 1896 | " | W. G. Sutton | Winston. |
| 1896 | " | F. E. Asbury | Asbury. |
| 1896 | " | T. S. Faucette | Burlington. |
| 1896 | " | E. E. Klutz | Troutman. |
| 1896 | " | Anna M. Gove | Greensboro. |
| 1896 | " | Thos. B. Ashly | Mt. Airy. |
| 1896 | " | B. E. Reeves | Lamar. |
| 1896 | " | J. R. Reitzel | Woodleaf. |
| 1896 | " | Chas. L. Summers | Winston. |
| 1896 | " | J. B. Smith | Pilot Mountain. |
| 1896 | " | J. W. Rodwell | Cana. |

## HONORARY MEMBERS.

Dr. J. D. Bellamy, Wilmington, N. C.
Dr. Hunter McGuire, Richmond, Va.
*Dr. L. McL. Tiffany, Baltimore, Md.
Dr. Thos. J. Moore, Richmond, Va.
Dr. W. T. Howard, Baltimore, Md.
Dr. W. W. Keen, Philadelphia, Pa,
Prof. L. A. Sayer, M.D., New York.

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## HONORARY FELLOWS.

| DATE OF SIGNING CONSTITUTION. | | AT SESSION OF |
|---|---|---|
| 1886 | Dr. E. M. Littlejohn, Thomasville | 1890 |
| 1887 | Dr. J. M. Lawing, Lincolnton | 1891 |
| 1855 | Dr. J. G. Ramsay, Salisbury | 1893 |

# LIST OF MEMBERS ALPHABETICALLY ARRANGED.

[An asterisk (*) denotes attendance at the last meeting.]

| | | |
|---|---|---|
| *Adams, M. R | Statesville | 1884 |
| *Alexander, Ab | Columbia | 1896 |
| Alexander, Annie L | Charlotte | 1885 |
| Alston, P. B | Henderson | 1868 |
| Alston, Willis | Littleton | 1870 |
| *Anderson, Albert | Wilson | 1889 |
| *Anderson, T. E | Statesville | 1879 |
| Anderson, J. R | Morganton | 1893 |
| *Anderson, W. S | Wilson | 1888 |
| *Archey, L. M | Concord | 1885 |
| Arthur, F. H | Harrell's Store | 1895 |
| *Asbury, F. E | Asbury | 1896 |
| *Ashby, Thos. B | Mt. Airy | 1896 |
| Ashcroft, J. E | Monroe | 1888 |
| *Ashworth, W. C | Kernersville | 1894 |
| Atkinson, W. H | 707 12th St, N. W. Washington, D. C | 1892 |
| Bagwell, W. H | Greenville | 1887 |
| *Bahnson, H. T | Salem | 1869 |
| Baker, Julian M | Tarboro | 1879 |
| Ballard, A. M | Asheville | 1891 |
| Barrier, P. A | Mt. Pleasant | 1867 |
| Baskerville, W. O | Oxford | 1895 |
| Battle, A. J | Wadesboro | 1881 |
| *Battle, J. T. J | Wadesboro | 1889 |
| *Battle, K. P. Jr | Raleigh | 1882 |
| *Battle, S. W | Asheville | 1887 |
| Beall, J. F | Linwood | 1887 |
| *Beall, W. P | Greensboro | 1877 |
| Bellamy, Russell | 35 W, 31st. St., N. Y | 1892 |
| Bellamy, W. J. H | Wilmington | 1870 |
| Bell, J. M | Wakefield | 1893 |
| Benton, C. M | Newton Grove | 1893 |
| Best, B. W | Eureka | 1895 |
| Best, W. L | Quinerly | 1885 |
| Black, J. C | Pioneer Mills | 1891 |
| *Blount, J. G | Washington | 1893 |
| Blue, K. A | Laurinburg | 1892 |
| *Boaz, Thos. A | Stoneville | 1894 |
| Bobbitt, W. H | Raleigh | 1883 |
| *Boddie, N. P | Durham | 1883 |
| Bolton, Mayland | Rich Square | 1885 |
| *Booth, S. D | Oxford | 1885 |
| Booth. T. J | Tally-Ho | 1890 |
| Booth, T. L | Stem | 1890 |

| | | |
|---|---|---|
| Bowen, W. D | Bath | 1895 |
| *Brevard, R. J | Charlotte | 1887 |
| *Broadnax, J. G | Greensboro | 1888 |
| Brown, F. W | Greenville | 1884 |
| Brown, J. P | Ashpole | 1893 |
| Brown, J. S | Salisbury | 1895 |
| Brown, Zeno | Greenville | 1885 |
| *Brownson, W. C | W. Asheville | 1896 |
| Bullock, W. B | Scranton, Pa | 1893 |
| Bulluck, D. W | Wilmington | 1875 |
| Burbank, T. S | Wilmington | 1880 |
| *Burroughs, J. A | Asheville | 1884 |
| Burt, B. W | Enno | 1893 |
| *Bynum, Jno | Winston | 1896 |
| *Caldwell, D. G | Concord | 1885 |
| *Carr, A. G | Durham | 1873 |
| Chapin, H. T | Pittsboro | 1886 |
| Cheatham, A | Durham | 1888 |
| *Cheatham, Goode | Henderson | 1896 |
| Cheatham, W. T | Henderson | 1868 |
| Chenault, W. F | Elmwood | 1891 |
| Cobb, W. H. Jr | Goldsboro | 1890 |
| *Cobb, W. H. H | Goldsboro | 1878 |
| Cooper, Fleet J | Hives | 1885 |
| *Cotten, A. T | Morrisville | 1885 |
| Courts, D. W | Reidsville | 1891 |
| Covington, J. M | Rockingham | 1879 |
| Cox, B. T | Redalia | 1888 |
| Cox, E. L | Jacksonville | 1892 |
| Cox, J. J | High Point | 1879 |
| Cox, R. E | Fremont | 1894 |
| Crisp, W. B | Cliffdale | 1885 |
| Croom, J. D | Maxton | 1887 |
| Crouse, W. L | Lincolnton | 1887 |
| *Crowell, A. J | China Grove | 1894 |
| *Crowell, W. H | Poortith | 1896 |
| Daligny, C | Thompsonville | 1891 |
| Daniels, S. S | Winton | 1887 |
| *Dalton, D. N | Winston | 1896 |
| Davis, R. L | Bryson City | 1893 |
| *DeArmond, J. Mc | Mint Hill | 1887 |
| Dixon, Joseph | Ayden | 1895 |
| Dodd, G. H | Clayton | 1887 |
| *Dodson, H. H | Milton | 1886 |
| *Dorsett, H. W | Bethany | 1885 |
| *Doughton, Geo | No. Wilkesboro | 1896 |
| Duffy, Charles | Newbern | 1870 |
| *Duffy, Francis | Newbern | 1872 |

| | | |
|---|---|---|
| Ector, I. G. | Friendship | 1879 |
| Edwards, G. C. | Hookerton | 1883 |
| *Edwards, J. D. | Siler City | 1894 |
| Edwards, Wm | Hunts | 1884 |
| Egerton, J. M. | Hendersonville | 1890 |
| Ellis, R. C. | Shelby | 1894 |
| *Faison, I. W | Charlotte | 1878 |
| Faison, J. A. | Raleigh | 1888 |
| Faison, J. M. | Faison | 1885 |
| Faison, W. W. | Goldsboro | 1883 |
| *Faucette, T. S. | Burlington | 1896 |
| *Fearrington, J. P. | Winston | 1890 |
| Fearing, W. B. | Poplar Branch | 1889 |
| Ferguson, K. M | Cameron | 1883 |
| Few, C. | Hendersonville | 1891 |
| Fitch, W. E. | Durham | 1892 |
| Fitzgerald, J. Y. | Monroe | 1891 |
| Fletcher, G. W. | Fletchers | 1881 |
| *Fletcher, M. H. | Asheville | 1881 |
| *Flippin, J. M. | Salisbury | 1893 |
| Foote, G. A. | Warrenton | 1858 |
| *Fox, M. F. | Gilmer's Store | 1885 |
| Freeman, W. G. | Mufreesboro | 1884 |
| *Fulp, E. | Fulp | 1896 |
| Futrell, M. H. | Conway | 1884 |
| Galloway, W. C. | Wilmington | 1880 |
| Gates, F. P. | Manteo | 1892 |
| Gattis, M. E. | Auburn | 1892 |
| Gattis, R. L. | Belle Voir | 1893 |
| *Gibbon, John H. | Philadelphia | 1893 |
| Gibbon, Robert | Charlotte | 1851 |
| Gibbon, R. L. | Charlotte | 1890 |
| Gibson, M. W. | Taylorsville | 1893 |
| Gill, Robert J | Henderson | 1883 |
| *Gilmer, C. S. | Greensboro | 1894 |
| Goelet, E. B. | Saluda | 1888 |
| Goley, W. R. | Graham | 1893 |
| *Goodman, E. G | El Paso | 1892 |
| Goodwin, A. W. | Raleigh | 1887 |
| *Gordon, J. R. | Jamestown | 1894 |
| *Gove, Anna M. | Greensboro | 1896 |
| Grady, J. C. | Magnolia | 1888 |
| Graham, Geo. W. | Charlotte | 1877 |
| *Graham, Joseph | Charlotte | 1874 |
| Graham, W. A. | Charlotte | 1890 |
| *Gray, R. F. | Winston | 1896 |
| Grimes, R. J. | Bethel | 1893 |

| | | |
|---|---|---|
| *Grimsley, J. E. | Snow Hill | 1884 |
| Grissom, Eugene | Denver, Col | 1859 |
| Hackler, J. M | Mars Hill | 1892 |
| *Hadley, J. M | LaGrange | 1873 |
| Haigh, T. D | Fayetteville | 1874 |
| *Hallsey, B. F | Roper | 1894 |
| Hargrave, R. A | Robersonville | 1879 |
| Harper, C. T | 239 N. Fulton Av., Baltimore | 1894 |
| Harper, M. W | Dunn | 1886 |
| Harrell, J. F | Whiteville | 1877 |
| *Harrell, W. H | Williamston | 1890 |
| Harrell, W. J | Aulander | 1892 |
| Harris, F. R | Henderson | 1883 |
| *Harris, H. H | Wake Forest | 1886 |
| Harris, A. H | Wilmington | 1894 |
| Hassell, S | Plymouth | 1893 |
| Hathoway, B. W | Avoca | 1890 |
| *Hays, J M | Greensboro | 1885 |
| Haywood, F. J | Raleigh | 1868 |
| Haywood, Hubert | Raleigh | 1879 |
| Headen, W. B | Chapel Hill | 1891 |
| Henderson, R. E | Wilton | 1890 |
| *Henley, S. A | Asheboro | 1888 |
| Herring, N. B | Wilson | 1888 |
| Herron, A. M | Charlotte | 1884 |
| Hester, J. R | Prospect Hill | 1894 |
| Hicks, W. N | Fish Dam | 1885 |
| Highsmith, J. F | Fayetteville | 1893 |
| Hill, D. J | Germantown | 1894 |
| *Hill, Joel | Lexington | 1886 |
| *Hill, L. H | Germantown | |
| Hill, Thomas | Goldsboro | 1879 |
| Hill, W. J | Statesville | 1893 |
| Hines, P. E | Raleigh | 1855 |
| *Hodges, J. A | Richmond, Va | 1885 |
| Hodges, J. M | LaGrange | 1883 |
| *Hollingsworth, W. K | Mt. Airy | 1893 |
| Holmes, Alman | Clinton | 1852 |
| *Holmes, F. H | Clinton | 1896 |
| *Holt, W. T | Donnaha | 1896 |
| Hornaday, E. H | Willow Green | 1878 |
| Houck, Albert | Lenoir | 1893 |
| Hudson, W. L | Dunn | 1883 |
| Hughes, E. W | Newbern | 1885 |
| Hughes, G. R | Pollocksville | 1894 |
| Hunter, L. W | Sardis | 1880 |
| Ingram, C. B | Mt. Gilead | 1892 |

| | | |
|---|---|---|
| *Montague, S. J | Winston | 1880 |
| *Montgomery, J. C | Charlotte | 1895 |
| *Montgomery, S. L | Concord | 1885 |
| Moore, C. E | Wilson | 1875 |
| Moore, E. G | Elm City | 1890 |
| *Moore, R. A | Moncure | 1893 |
| Moran, G. H | Morganton | 1888 |
| Morphew, M. F | Marion | 1893 |
| Morrill, Jenness | Falkland | 1888 |
| *Mosby, Chas. W | Kapps Mills | 1896 |
| Munroe, J. P | Davidson | 1890 |
| *Murphy, P. L | Morganton | 1873 |
| Murphy, W. E | Carr | 1895 |
| *Myers, J. A | Lexington | 1894 |
| Nelson, R. J | Robersonville | 1893 |
| Nichols, C. G | Roxboro | 1891 |
| Nicholson, J. L | Richlands | 1880 |
| Nicholson, J. T | Bath | 1885 |
| *Nicholson, W. H | Louisburg | 1893 |
| *Noble, R. J | Selma | 1878 |
| O'Donoghue, D | Charlotte | 1887 |
| *O'Hagan, Chas. J | Greenville | 1860 |
| *O'Kelley, J. M | William's Mill | 1885 |
| Palmer, R. W | Gulf | 1891 |
| Parris, D. C | Hillsboro | 1887 |
| *Parrott, James W | Kinston | 1896 |
| Pate, W. T | Gibson's Station | 1885 |
| *Patterson, A. J | Liberty | 1892 |
| Patterson, R. A | Aurelian Springs | 1887 |
| *Payne, R. L | Norfolk, Va | 1881 |
| Pemberton, W. D | Monroe | 1887 |
| *Perry, M. P | Macon | 1884 |
| Pharr, T. F | Concord | 1881 |
| *Pharr, W. W | Newell | 1885 |
| *Picot, L. J | Littleton | 1875 |
| *Poole, C. M | Craven | 1880 |
| *Potts, Fred. L | Vanceboro | 1896 |
| Powell, W. E | Castoria | 1885 |
| *Powers, J. B | Wake Forest | 1896 |
| *Pressly, G. W | Charlotte | 1896 |
| Prince, D. M | Lauringburg | 1879 |
| Pritchard, W. B | 355 W. 58th St., N. Y | 1884 |
| Pugh, E. W | Windsor | 1885 |
| Purefoy, G. W | Asheville | 1884 |
| Ramsay, I. N | Seaboard | 1893 |

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|---|---|---|
| Ramsay, J. G | Salisbury | 1855 |
| Ray, J. L | Burnsville | 1890 |
| Reagan, J. A | Weaverville | 1881 |
| *Reeves, B. E | Lamar | 1896 |
| *Register, E. C | Charlotte | 1887 |
| *Reid, W. K | Pineville | 1896 |
| *Reitzel, J. R | Woodleaf | 1896 |
| Renn, G. A | Raleigh | 1893 |
| *Reynolds, Carl V | Asheville | 1896 |
| Richardson, W. J | Greensboro | 1894 |
| Riddick, T. M | Woodville | 1894 |
| Rieves, Jas. T | Julian | 1883 |
| Ritter, F. W | Moyock | 1885 |
| Roberson, C. N | Ascend | 1893 |
| *Roberson, D. A | Guilford College | 1894 |
| Roberts, J. D | Dade City, Fla | 1877 |
| *Robertson, J. B | Clayton | |
| Robinson, G. J | Smithfield | 1884 |
| *Rodman, J. C | Washington | 1895 |
| *Rodwell, J. W | Cana | 1896 |
| *Royster, H. A | Raleigh | 1895 |
| Royster, T. S | Townesville | 1883 |
| Royster, W. I | Raleigh | 1871 |
| Ruffin, J. K | Wilson | 1860 |
| Russell, F. H | Wilmington | 1895 |
| Saine, Jno. W | Lincolnton | 1895 |
| *Sanderford, J. F | Creedmore | 1891 |
| Schenck, D. R | Greensboro | 1894 |
| Seawell, F. H | Earspsboro | 1893 |
| Sexton, J. A | Raleigh | 1879 |
| *Shaffner, J. F | Salem | 1867 |
| *Shamberger, J. B | Star | 1892 |
| Shepard, J. C | Wilmington | 1880 |
| *Siewers, N. S | Salem | 1877 |
| *Sikes, G. T | Grissom | 1884 |
| Sills, D. N | Castalia | 1875 |
| Sinclair, Duncan | Rowlands | 1888 |
| Sloan, J. M | Gastonia | 1893 |
| Smith, Duncan | Athens | 1888 |
| *Smith, G. A | Siler City | 1894 |
| *Smith, J. B | Pilot Mountain | 1896 |
| Smith, R. A | Goldsboro | 1882 |
| Snipes, E. P | Jonesboro | 1890 |
| Sorrell, L. P | Kelvin Grove | 1885 |
| Speight, R. H | Wrendale | 1875 |
| Spencer, R. T | Chalk Level | 1885 |
| *Spencer, W, O | Yanceyville | 1894 |
| *Stafford, W. G | Burlington | 1888 |
| Stamps, Thos | Lumber Bridge | 1888 |

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|---|---|---|
| *Irwin, J. R | Charlotte | 1882 |
| *Ivie, G. M | Stoneville | 1894 |
| *Ivie, W. P | Lenoir | 1891 |
| *Jackson, C. C | Yeatesville | 1896 |
| Jenkins, C. L | Conetoe | 1894 |
| Jenkins, J. C | Everetts | 1893 |
| Jenkins, J. D | Crisp | 1894 |
| *Jewett, R. D | Wilmington | 1890 |
| Johnson, H | Grifton | 1892 |
| Johnson, L. L | Angeline | 1894 |
| *Jones, A. G | Walnut Cove | 1892 |
| Jones, A. O | Roger's Store | 1891 |
| Jones, C. M | Grimesland | 1895 |
| Jones, J. W | Tarboro | 1860 |
| *Jones, W. J | Goldsboro | 1860 |
| Jones, W. J., Jr | Goldsboro | 1894 |
| Jones, S. B | Charlotte | 1879 |
| Jordan, T. M | Hookerton | 1881 |
| *Julian, C. A | Thomasville | 1893 |
| *Kent, A. A | Lenoir | 1894 |
| King, Ed. de la R | Beaufort | 1879 |
| *King, O. D | Albemarle | 1887 |
| *Kirby, Geo. L | Raleigh | 1867 |
| *Kirkpatrick, W. L | Crabb Tree | 1895 |
| *Klutz, E. E | Troutman | 1896 |
| Knight, J. B. H | Williamston | 1891 |
| *Knox, A. W | Raleigh | 1880 |
| *Kornegoy, Jas. W | Mt. Olive | 1896 |
| Lafferty, J. S | Concord | 1890 |
| *Laird, E. C | Haw River | 1890 |
| Lane, W. W | Wilmington | 1870 |
| Laughinghouse, C. O'H | Greenville | 1894 |
| Lawing, J. M | Lincolnton | 1887 |
| Laxton, J. L | Morganton | 1891 |
| Ledbetter, A. E | Greensboro | 1894 |
| Lee, A. M | Clinton | 1877 |
| Leggett, K | Hobgood | 1885 |
| *Lewis, C. H | Farmers | 1894 |
| Lewis, G. W | Fremont | 1888 |
| Lewis, H. W | Jackson | 1887 |
| *Lewis, R. H | Raleigh | 1877 |
| Lilly, W. H | Concord | 1874 |
| *Linville, A. Y | Salem | 1896 |
| Littlejohn, E. M | Thomasville | 1896 |
| Loftin, P. B | Grifton | 1890 |

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|---|---|---|
| Logan, J. E. | Greensboro | 1894 |
| *Long, B. L. | Hamilton | 1883 |
| *Long, Geo. W. | Graham | 1877 |
| Long, H. F. | Statesville | 1893 |
| *Long, J. W. | Richmond, Va. | 1884 |
| *H. S. Lott | Winston | |
| Love, Wm. J. | Wilmington | 1870 |
| *Lumsden, W. J. | Elizabeth City | 1888 |
| *McAnally, Chas. B. | Madison | 1896 |
| McCauless, W. L. | Danbury | 1894 |
| McClure, S. C. | | 1886 |
| McCullers, J. J. L. | Raleigh | 1893 |
| McDonald, A. D. | Wilmington | 1879 |
| McDougald, A. | Cumberland Mills | 1888 |
| McDowell, W. O. | Scotland Neck | 1883 |
| McDuffie, W. C. | Fayetteville | 1876 |
| McGeachy, R. S. | Raleigh | 1895 |
| McGee, J. W. | Raleigh | 1885 |
| McGee, J. W., Jr. | Raleigh | 1888 |
| McKay, J. P. | Averasboro | 1885 |
| McKee, James | Raleigh | 1870 |
| *McKenzie, W. W. | Salisbury | 1894 |
| McKinnon, Arch | Chadbourn | 1888 |
| McLauchlin, J. E. | Cool Spring | 1896 |
| McLean, N. M. | Gibson's Station | 1885 |
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| McMillan, J. D. | Lumberton | 1876 |
| McMillan, W. D. | Wilmington | 1892 |
| McMullan, Oscar | Elizabeth City | 1889 |
| *McMullan, T. S. | Hertford | 1892 |
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| McNeill, J. W. | Fayetteville | 1876 |
| Macon, P. J. | Warrenton | 1883 |
| Malone, J. E. | Louisburg | 1898 |
| Manning, John M. | Durham | 1884 |
| Mann, J. J. | Nashville | 1890 |
| Marriott, H. B. | Battlebore | 1883 |
| Marsh, J. H. | Fayetteville | 1890 |
| Matthews, T. A. | Castalia | 1895 |
| *Mayo, W. R. | Jamesville | 1892 |
| Mease, J. H. | Canton | 1894 |
| Meisenheimer, C. A. | Charlotte | 1882 |
| Meisenheimer, T. F. | Morven | 1881 |
| Mercer, W. P. | Elm City | 1880 |
| Michaux, E. R. | Greensboro | 1890 |
| Miller, J. F. | Goldsboro | 1873 |
| Mills, R. W. | Troutman | 1892 |
| Monroe, A. J. | Jonesboro | 1891 |
| *Monroe, W. A. | Sanford | 1888 |

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|---|---|---|
| Stancell, R. H | Margarettsville | 1887 |
| Stansill, J. M | Rockingham | 1879 |
| Stanton, D. A | High Point | 1891 |
| Starms, E. C | Asheville | 1891 |
| *Steele, W. C | Mt. Olive | 1894 |
| Stevens, J. A | Clinton | 1883 |
| *Stevens, M. L | Enochville | 1893 |
| Stroud, O. B | Ore Hill | 1894 |
| Street, N. H | Newbern | 1883 |
| *Strickland, E. F | Bethania | 1893 |
| Strickland, J. T | Nashville | 1895 |
| *Sugg, E. H | Snow Hill | 1895 |
| Summerell, E. M | Mill Bridge | 1883 |
| *Summers, Chas. L | Winston | 1896 |
| *Sutton, W. G | Winston | 1896 |
| Tate, R. W | Greensboro | 1887 |
| Tatum, M. McI | Mt. Olive | 1888 |
| *Tayloe, D. T | Washington | 1885 |
| Tayloe, Joshua | Washington | 1893 |
| Taylor, H. L. | St. Paul, Minn | 1871 |
| *Taylor, J. M | Morganton | 1883 |
| Taylor, W. S | Mt. Airy | 1894 |
| *Templeton, Jas. M | Cary | 1893 |
| *Thames, John | Lexington | 1895 |
| *Thomas, Geo. Gillett | Wilmington | 1871 |
| Thomas, R. W | Thomasville | 1880 |
| Tucker, J. H | Henderson | 1878 |
| *Tull, Henry | Kinston | 1876 |
| Turlington, W. E | Benson | 1876 |
| Turlington, W. T | Fremont | 1891 |
| *Turner, J. A | High Point | 1891 |
| *Turner, J. M | Wilksboro | 1896 |
| Utley, R. S | Holly Springs | 1886 |
| *Vestal, W. J | Tyro Shops | 1894 |
| Vick, J. W | Selma | 1873 |
| Von Ruck, Karl | Asheville | 1891 |
| *Wakefield, W. H | Charlotte | 1893 |
| Waldrop, J. G. | Hendersonville | 1891 |
| *Walker, C. E | Huntersville | 1894 |
| *Walton, J. C | Reidsville | 1879 |
| Watson, D. I | Southport | 1894 |
| Watson, J. A | Asheville | 1891 |
| *Way, J. Howell | Waynesville | 1887 |
| *Weaver, H. B | Asheville | 1881 |
| West, G. H | Weldon | 1895 |
| Wharton, L. D | Smithfield | 1894 |
| Wheless, J. R | Centerville | 1893 |
| Whitake, R. A | Trenton | 1885 |
| Whitake, H. H | Crisp | 1883 |
| Whitehead, F. W | Scotland Neck | 1895 |

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|---|---|---|
| *Whitehead, John | Salisbury | 1850 |
| *Whitehead, W. H | Rocky Mount | 1875 |
| *Whitehead, R. H | Chapel Hill | 1891 |
| *White, J. W | Wilkesboro | 1890 |
| Whiteside, J. C | Newton | 1885 |
| Whiteside, R. F | Hickory | 1881 |
| Whitfield, W. C | Quinerly | 1884 |
| Williams, B. B | Keyser | 1893 |
| Williams, H. C | Aberdeen | 1893 |
| Williams, J. H | Asheville | 1881 |
| Williams, J. M | Greenville | 1894 |
| Williams, T. B | Ridgeway | 1893 |
| Wilson, A. R | Greensboro | 1882 |
| Winborne, R. H | Barnitz | 1857 |
| Wolff, J. H | Sylva | 1891 |
| Wood, J. E | Elizabeth City | 1889 |
| Wood, Wm. R | Scotland Neck | 1867 |
| Woodley, C. B | Kinston | 1888 |
| Wright, J. T | Salisbury | 1892 |
| Wright, S. P | Wilmington | 1892 |
| York, A. D | Morrisville | 1885 |
| *Young, R. S | Concord | 1882 |

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[NOTE.—The closing part of the debate on "Gynæcology," page 87, is credited to Dr. H. S. Lott, the author of the paper. He has written disclaiming these remarks as being opposed to the sentiment expressed in his essay. The error is probably due to the reporter's unfamiliarity with the names and faces of members taking part in the discussion.—Sec'y.]

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